

Flight Plan

STS-74

(TNT Trajectory)

Mission Operations Directorate
Operations Division

Final, Rev A
November 6, 1995

<u>EVENT</u>	<u>CDT/CST</u>		
Launch	06:56 CST	Sat	Nov 11
Mir Docking	01:20 CST	Tues	Nov 14
Hatch Opening	03:26 CST	Tues	Nov 14
Mir Undocking	01:34 CST	Fri	Nov 17
KSC Landing	12:25 CST	Sun	Nov 19

BRANCH CHIEF
R.H. NUTE
DOA
BOND

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas

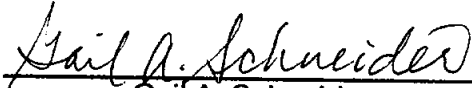


MISSION OPERATIONS DIRECTORATE


STS-74 FLIGHT PLAN


FINAL, REVISION A
November 6, 1995

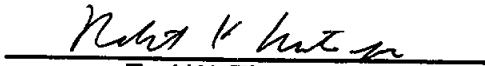
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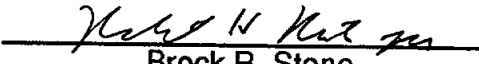

Gail A. Schneider
Book Manager

APPROVED BY:


Cheevon B. Lau
Lead, Flight Planning and
Pointing Group


Robert H. Nute
Chief, Flight Planning Branch


Earl W. Thompson
Chief, Operations Division


Brock R. Stone
Assistant Director
for Operations

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FLIGHT PLAN
STS-74

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 4B-1 74/FIN A
 4B-2 74/FIN A
 4C-1 74/FIN A
 4C-2 74/FIN A
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 5-3 74/FIN A

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 5-5 74/FIN A
 5-6 74/FIN A
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 7-4 * 74/FIN A
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 7-6 * 74/FIN A
 7-7 * 74/FIN A
 7-8 * 74/FIN A
 8-1 * 74/FIN A
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* - Omit from flight book

STS-74 FLIGHT PLAN FABRICATED ITEMS

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INTRODUCTION

The STS-74 Flight Plan is the Flight Data File article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Deorbit Prep, and Entry Checklists. For continuity, the summary level timeline includes the entire flight.

This on-orbit timeline satisfies the objectives specified in the Flight Definition and Requirements Directive and the requirements of the STS-74 Flight Requirements Document. The Flight Plan, as part of the Flight Data File, meets the specifications of the Flight Readiness Review Cycle version of the STS-74 Flight Initialization Data Pack.

The flight profile used for this Flight Plan is for a launch date of November 11, 1995, at 06:56 CST. The launch time was derived using a predicted Mir vector for November 11, 1995, at midnight, GMT. Orbiter inertial attitudes are expressed relative to a Mean of 1950 (M50) reference frame.

JSC-22359, Crew Scheduling Constraints (Appendix K, CPMP), Basic, Rev B, January 1992, has been used to build the timelines contained in this Flight Plan.

The timeline formats used in this Flight Plan are based on JSC-19933, Timeline Format Definitions and Standard Notes, Rev C, May 1990.

STS-74 OVERVIEW TIMELINE

OVERVIEW TIMELINE

FLIGHT: STS-74		EDITION: FINAL, REV A		PUB. DATE: 11/06/95																										
MET:000	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11					
STS FD1	C I W R I A E I K H I E											I V N I E G I H R I		L O I F F		P O S T I N S E R T I O N		K O O P Y		I M U		ΔNC1 P R E S L E E P		S L E E P						
MIR 20	ASSUMPTIONS: 1. LAUNCH DATE = NOV 11, 1995 GMT L/O = 12:56 2. BETA ANGLE RANGE WHILE DOCKED = -67 TO -57 DEG																				S L E E P (9)									
DAY/NIGHT	3. MISSION DURATION = 8±2																													
ORBIT	4. ALTITUDE = 160 NMI INSERTION																													
DAILY ORB	213 NMI MIR RNDZ																													
NOTES:	5. +RBAR RNDZ APPROACH, SHUTTLE NOSE-IN-PLANE										◊DM ACT & C/O		◊ OSVS C/O			◊ GPP SURVEY														
6. DESCENDING LANDING OPPORTUNITIES																														
MET:001	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11					
STS FD2	S L E E P			ΔNC2 P O S T S L E E P		A P R E P		C A B D E P		E M U C / O		R M S C / O		S V S C / O		M E A L		P S R V Y		P A O		C L C A M R		ΔNC3 P R E S L E E P		S L E E P G P P C A L I B R A T I O N				
MIR 20	S L E E P (9)																				S L E E P (9)									
DAY/NIGHT																														
ORBIT	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24																													
DAILY ORB	1 2 3 4 5 6 7 8 9 10 11 12 13																													
NOTES:	◊ MANUAL FC PURGE										◊ IMU/COAS		◊ MPB TERM		◊ MPB INIT		◊ VHF RADIO S/U		◊ MIDDECK PREP											
MET:002	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11					
STS FD3	S L E E P			P O S T S L E E P		U N B R T H		ΔNPC P R E S S C K S / H A T C H O P		C A B R E P		D I M I N G		M E A L		C L C A M R		P A O		ΔNH/NC4 P R E S L E E P			S L E E P (6:00)							
MIR 20	S L E E P (9)																				S L E E P (6)									
DAY/NIGHT																														
ORBIT	24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40																													
DAILY ORB	13 14 15 16 1 2 3 4 5 6 7 8 9 10 11 12 13																													
NOTES:	◊ WASTE DUMP										◊ GRAPPLE		◊ IMU		◊ RNDZ TOOLS C/O															
MET:003	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11					
STS FD4	S L E E P		P O S T S L E E P		ΔNC5 R E N D E Z V O U S		ΔRBAR		P O S T D O C K C O N F I G		M E A L		D M H / O		D O C K O P S		P A O		D O C K O P S		P R E S L E E P G P P C A L I B R A T I O N		S L E E P							
MIR 20	S L E E P													P O S T D O C K C O N F I G		M E A L		D M H / O		D O C K O P S		P A O		D O C K O P S		P R E S L E E P		S L E E P		
DAY/NIGHT																														
ORBIT	40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55																													
DAILY ORB	13 14 15 1 2 3 4 5 6 7 8 9 10 11 12 13																													
NOTES:	◊ FC PURGE			◊ RMS POISE FOR DOCK					◊ DOCK 2/18:24		◊ WELCOME		◊ SAFETY BRIEFING		◊ FOOD, WATER, & RESUPPLY TRANSFER			◊ PRC5 TEST												

FLIGHT: STS-74 EDITION: FINAL, REV A PUB. DATE: 11/06/95

MET : 003	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11			
STS FD5	SLEEP				POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	DLY PLN	DOCKED OPS	MEAL/GIFT	PAO	DOCKED OPS	PAO	PAO	PRE SLEEP			SLEEP									
MIR 20	SLEEP				POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	DLY PLN	DOCKED OPS	MEAL/GIFT	PAO	DOCKED OPS	PAO	DOCKED OPS	PRE SLEEP			SLEEP									
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71												
DAILY ORB	14	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13												
NOTES:	o MIR ASSUMPTION OF ATT CNTL o IMU o SAFETY BRIEFING o PIC MIR JET																											

MET : 004	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11			
STS FD6	SLEEP				POST SLEEP	POST SLEEP	PAO	DLY PLN	DOCKED OPS	MEAL	DOCKED OPS	CREW CONF	FUEL	UNDOCK PREP	PRE SLEEP			SLEEP										
MIR 20	SLEEP				POST SLEEP	POST SLEEP	PAO	DLY PLN	DOCKED OPS	MEAL	DOCKED OPS	CREW CONF	FUEL	UNDOCK PREP	PRE SLEEP			SLEEP										
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86													
DAILY ORB	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13													
NOTES:	o WASTE DUMP o IMU o FC PURGE																											

MET : 005	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11			
STS FD7	SLEEP				POST SLEEP	UNDOCK PREP	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND		
MIR 20	SLEEP				POST SLEEP	UNDOCK PREP	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND	FLY AROUND			
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102												
DAILY ORB	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14												
NOTES:	▲ UNDOCK 5/18:38 ▲ SEP 5/20:23																											

MET : 006	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11			
STS FD8	SLEEP				POST SLEEP	FCS C/O	PAO	PIC OBS	MEAL	CABIN STOW	IMU	PRE SLEEP			SLEEP													
MIR 20	SLEEP				POST SLEEP	FCS C/O	PAO	PIC OBS	MEAL	CABIN STOW	IMU	PRE SLEEP			SLEEP													
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118												
DAILY ORB	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13	14												
NOTES:	o FC PURGE o WASTE DUMP o KU BD STOW o RMS STOW																											

MET : 007	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11				
STS FD9	SLEEP																	POST SLEEP			CABIN STOW		DEORBIT PREP					DB UR OR N	KL SD CG
MIR 20																		04:29		05:29									
DAY/NIGHT	[Day/Night Cycle]																												
ORBIT	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133													
DAILY ORB	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14													
NOTES:	⊗ FC PURGE ○ HOT FIRE																												

MET : 008	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	
STS																										
MIR 20																										
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149										
DAILY ORB		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15										
NOTES:																										

MET : 009	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	
STS																										
MIR 20																										
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT		150	151	152	153	154	155	156	157	158	159	160	161	162	163	164										
DAILY ORB		16	1	2	3	4	5	6	7	8	9	10	11	12	13	14										
NOTES:																										

MET : 010	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	
STS																										
MIR 20																										
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	165	166	167	168	169	170	171	172	173																	
DAILY ORB		1	2	3	4	5	6	7	8																	
NOTES:																										

SUMMARY TIMELINE

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE								
316:00:56/ 316:12:56	000:12:00/ 001:00:00	315:18:56/ 316:06:56	02/315 CST	-69.2		NOVEMBER 11, 1995	STS-74	FINAL A	11/06/95								
DMT :316	4	5	6	7	8	9	10	11	12	13	14	15					
CST :315	19	20	21	22	23	0	1	2	3	4	5	6					
FD :01	12	13	14	15	16	17	18	19	20	21	22	23	0				
MET :000			FD02										MET:001				
CDR/PLT CAMERON HALSELL	SLEEP	POST SLEEP	Δ NC2 MULT AXIS RCS BURN	LOAD DAPS	POST SLEEP	IMU/COAS	MNV/R COAS CALC	-ZLV MNV/R	A/L PREP	10.2 DEPRESS	1000 N 2 F I G	EMU C/O	ESC BATT	VHF RADIO SETUP	MEAL	V O I C E	H2O CNTR FILL #2
MS1 HADFIELD	GLO EL SLEEP	POST SLEEP	H2O CNTR FILL #1		POST SLEEP		RMS HTR		OSVS PWRUP		MC MEK FLTR	RMS C/O	OSVS PWRUP	OSVS C/O	MEAL	RMS PLB SURVEY	RMS FOR DOCK
MS2 ROSS	SLEEP	POST SLEEP		F C P U R G E	POST SLEEP	RO S T E R N	ERG O M E T E R	M A S K P / B	A/L PREP		M A S K P / B	EMU C/O	ESC BATT	KCA S/U	ESC I N I T C/O	MEAL	P/TV09 S/U PAO
MS3 McARTHUR	SLEEP	POST SLEEP			POST SLEEP	RO S T E R N	ERG O M E T E R	M A S K P / B	A/L PREP		M A S K P / B	EMU C/O		OSVS C/O	MEAL	RMS PLB SURVEY	
DAY/NIGHT																	
ORBIT																	
DAILY ORBIT																	
MOON UP/DOWN																	
EARTH TRACE																	
SITE COVERAGE	-USK -PPK			-DJS -KLP -ULD -USK -PPK				-DJS -KLP -ULD -USK				-DJS			-SPB -SHK -DJS		
TDRS																	
STS ATT	-XLV -YVV (GLO EL)													COAS	-ZLV, -XVV		
NOTES:	@MANUAL @AFT STATION @-ZLV, -XVV @RMS HTR ACT @TEST																

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE												
316:12:56/ 317:00:56		001:00:00/ 001:12:00		316:06:56/ 316:18:56		02/316 CST	-69.2		NOVEMBER 12, 1995	STS-74	FINAL A	11/06/95												
DMT	:316	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12		
CST	:316	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
FD	:02	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
MET	:001	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
CDR/PLT CAMERON HALSELL	PAO OPPTY		C/L CMR MOUNT	C/L CMR ALIGN	ASSEMBLY DUCT	P/TVO2 S/U DM INST	PRE SLEEP	NC3 RCS BURN	-ZLV MNV	PRE SLEEP	PMO	PRE SLEEP	PASDE MNV	FLU TAD UD REN MNV										
MS1 HADFIELD	PAO OPPTY		C/L CMR MOUNT	C/L CMR ALIGN	RING EXT	FILTER CLEANING						PRE SLEEP	R M S P A S D E M N V R											
MS2 ROSS	PAO OPPTY		MDDK PREP	VOICE ESC DNLK		GC PA PR LE CK						PRE SLEEP												
MS3 McARTHUR	PAO OPPTY		MDDK PREP	10 2 MAIN H	PADM ST UP	VOICE ESC						PRE SLEEP												
DAY/NIGHT																								
ORBIT		17		18		19		20		21		22		23		24								
DAILY ORBIT		6		7		8		9		10		11		12		13								
MOON UP/DOWN																								
EARTH TRACE																								
SITE COVERAGE	-PPK -USK -PPK																							
TDRS	E W																							
STS ATT		-ZLV, -XVV NC3 -ZLV, -XVV +ZLV +XVV (PASDE) -XLV -YVV (GLO EL)																						
NOTES:		*CROWN POINT, IN *POCATELLO, ID *ZLV, -XVV *XLV -YVV *FUTURE LOADED MNVR -XLV -YVV																						

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE						
317:00:56/ 317:12:56	001:12:00/ 002:00:00	316:18:56/ 317:06:56	03/316 CST	-68.9		NOVEMBER 12, 1995	STS-74	FINAL A	11/06/95						
DMT :317															
CST :316															
FD :03															
MET :001									MET:002						
CDR/PLT CAMERON HALSELL	SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	ODS PREP FOR EGR	CANCELLED CHG	Δ NPC MULT AXIS RCS BURN	EXERCISE	EXERCISE	14 7 REPER S	115 FT CABLE CK	MOV ALIGN	MEAL	C/L CMR MOUNT	SV AO R E X E
MS1 HADFIELD	SLEEP	POST SLEEP	H2O CNTR FILL #3	POST SLEEP	DM UNBERTH	DM INSTALL	DM REACT	ODS PREP FOR INGR	SH VSTV PRS CKT	SH IPO NDX S-C K10 N CSP KW	DM & LK CK CK CK CK CK CK	DM CONF	MEAL	C/L CMR MOUNT	C A L I G N
MS2 ROSS	SLEEP	POST SLEEP			DM UNBERTH	DM INSTALL	DM REACT	ODS PREP FOR INGR	SH VST PRS CK	SH VST FIN LK CK	DM & LK CK CK CK CK CK	DM CONF	MEAL	POST EVA	POST EVA ENT PREP
MS3 McARTHUR	SLEEP	POST SLEEP			DM UNBERTH	DM INSTALL	DM REACT	EXERCISE	OSVS STOW	PGSC SETUP	DM & LK CK CK CK CK CK	DM CONF	MEAL	POST EVA	POST EVA ENT PREP
DAY/NIGHT															
ORBIT	25	26	27	28	29	30	31	32							
DAILY ORBIT	14	15	16	1	2	3	4	5	6						
MOON UP/DOWN															
EARTH TRACE															
SITE COVERAGE	ULD -USK -PPK	-PPK	-DJS -KLP -ULD -USK	-DJS -KLP -ULD -USK	-DJS -KLP -ULD	-DJS	-DJS	-SPB -SHK -DJS							
TDRS	E W														
STS ATT	-XLV -YVV (GLO EL)		-ZLV, +YVV	-ZLV, -YVV	FREE		-ZLV, -YVV								MOON CAL
NOTES:			⊙-ZLV, +YVV	⊙-ZLV, -YVV			⊙ PLT EXERCISE START	⊙ CDR							⊙ G/L CMR ALIGN ⊙ NORWALK, CT

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE				
317:12:56/ 318:00:56		002:00:00/ 002:12:00		317:06:56/ 317:18:56		03/317 CST	-68.3		NOVEMBER 13, 1995	STS-74	FINAL A	11/06/95				
DMT	:317	16	17	18	19	20	21	22	23	0	DMT:318	1	2	3		
CST	:317	7	8	9	10	11	12	13	14	15	16	17	18			
FD	:03	0	1	2	3	4	5	6	7	8	9	10	11	12		
MET	:002															
CDR/PLT CAMERON HALSELL			C/L CAMR MOON ALGN	S V O I R E X E	P A O O P T Y		P/TVO3 S/U DOCK	PRE SLEEP	NH/NC4 O M S B U R N	-ZLV M N V R	PMO	PRE SLEEP	SLEEP (6:00)			
MS1 HADFIELD	CA L I F O R N I A	H2O CNTR FILL #4	C/L CAMR MOON ALGN	R I N G E X T	P A O O P T Y		EXERCISE	PRE SLEEP		P A D M S E T U P		PRE SLEEP	SLEEP (6:00)			
MS2 ROSS	PE R S O N S T A T E S E R V I C E A P	EXERCISE	P/TVO9 S/U PAO		P A O O P T Y		GC P A B L E S C A N	PRE SLEEP	ESC DNLK			PRE SLEEP	SLEEP (6:00)			
MS3 McARTHUR	PE R S O N S T A T E S E R V I C E A P	CMOS CONF	RNDZ TOOLS C/O		P A O O P T Y		S V O I R E X E	PRE SLEEP		R F O R D O C K P O I S E		PRE SLEEP	SLEEP (6:00)			
DAY/NIGHT	[Day/Night Cycle]															
ORBIT	33		34		35		36		37		38		39		40	
DAILY ORBIT	6		7		8		9		10		11		12		13	
MOON UP/DOWN	[Moon Up/Down Cycle]															
EARTH TRACE	[Earth Trace Map]															
SITE COVERAGE	-USK -PPK -USK -PPK															
TDRS	E W	[TDRS Coverage]														
STS ATT	MOON CAL															
NOTES:	SAREX VOICE @ROUND LAKE HTS, IL @-ZLV, -XVV @SAN JOSE, CA															

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
318:00:56/ 318:12:56		002:12:00/ 003:00:00		317:18:56/ 318:06:56		04/317 CST	-67.3		NOVEMBER 13, 1995	STS-74	FINAL A	11/06/95					
DMT	:318	4	5	6	7	8	9	10	11	12	13	14	15				
CST	:317	19	20	21	22	23	0	1	2	3	4	5	6				
FD	:04	12	13	14	15	16	17	18	19	20	21	22	23	0			
MET	:002	FD04												MET:003			
STS	CDR/PLT CAMERON HALSELL	POST SLEEP	COMM ACT	ΔNC5	ΔNCC	ΔTI	ΔRBR		SMTNO SV5 R. 1	PRCS TEST	A H A T	SMTNO SV5 R. 1	MEAL	DUAL G2 GPC	H2O CNTR FILL #5	MIR SFTY BRF	
	MS1 HADFIELD	POST SLEEP	RNDZ	V M I E W	RNDZ	RPF MOOD SIR S E C K	V M I E W	RNDZ	VIEW MIR	RNDZ	PRESS CKS	MEAL	XH H/ AOW I R	DOCK LTS XRMVL	SH D/ CO	MIR SFTY BRF	
	MS2 ROSS	POST SLEEP	ODS PREP FOR EGR	P/TV03 S/U DOCK	P/TV03 OPS DOCK				ODS PREP FOR INGR	V S E T U P	P E N D I N G	P/TV04 S/U	MEAL	SB W O X	DM CNTRL H/O	MIR SFTY BRF	
	MS3 McARTHUR	POST SLEEP	RNDZ			RNDZ				PRESS CKS			MEAL			MIR SFTY BRF	
	20-ESA REITER	POST SLEEP	RNDZ			P/TV DOCK OPS				AIR TO AIR			MEAL			MIR SFTY BRF	
	20-CDR GIDZENKO	POST SLEEP	COMM ACT	AIR TO AIR			AIR TO AIR				PRESS CKS		MEAL	MH I O R O K S		MIR SFTY BRF	
MIR	20-ENG AVDEYEV	POST SLEEP	DOCK PREP	DOCK PREP	DOCK PREP	DOCK MNR & SA ALN		ST A R K	SMTNO SV5 R. 1	P/TV SETUP MIR	PRCS TEST	SMTNO SV5 R. 1	MEAL	XH H/ AOW I R	DM CNTRL H/O	SH D/ CO	MIR SFTY BRF
	DAY/NIGHT	[Day/Night Cycle]															
	ORBIT	41	42	43	44	45	46	47	48								
DAILY ORBIT	14	15	1	2	3	4	5	6									
MOON UP/DOWN	[Moon Cycle]																
EARTH TRACE																	
SITE COVERAGE	-ULD -USK -PPK	-ULD -USK -PPK	-ULD -USK -DJS -KLP	-ULD -USK -DJS -KLP	-ULD -USK -SHK -DJS -KLP	-KLP -ULD -SHK -SPB -DJS	-SPB -SHK -DJS										
TDRS	E	W	[TDRS Coverage]														
ALTAIR	E	W	[ALTAIR Coverage]														
STACK ATT	RNDZ																
NOTES:	⊕ UPLINK FC PURGE ■ RMS PRE-CRADLE Δ DM PREP FOR RNDZ ■ MCIU FLTR CHECK ◀ DSBL MIR ACS JET ◀ MIR FREE DRIFT ○ JET Deselect ◀ PCS CNTRL SETUP ○ EXERCISE (CDR)																

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
318:12:56 / 319:00:56		003:00:00 / 003:12:00		318:06:56 / 318:18:56		04/318 CST	-66.1		NOVEMBER 14, 1995	STS-74	FINAL A	11/06/95	
DMT	:318	16	17	18	19	20	21	22	23	0	DMT:319	1 2 3	
CST	:318	7	8	9	10	11	12	13	14	15	16	17 18	
FD	:04	0	1	2	3	4	5	6	7	8	9	10 11	
MET	:003	0	1	2	3	4	5	6	7	8	9	10 11 12	
STS	CDR/PLT CAMERON HALSELL	MIR SFTY BRF		SMTNO SV5 R.1	V E N T	SMG TNO SV5 R.1	RME 1306 OPS		PRE SLEEP	PMC	PRE SLEEP	SMTNO SV4 R.3	SLEEP
	MS1 HADFIELD	MIR SFTY BRF	H 2 O X F E R	V E N T	FOOD XFER	RESPLY XFER	EXERCISE	H2O CNTR FILL #6	H 2 O X F E R	PS A E D T M U P	PRE SLEEP	DTO 1118*	SLEEP
	MS2 ROSS	MIR SFTY BRF	P/TV09 S/U PAO	V E N T	FOOD XFER	RESPLY XFER		EXERCISE	GPP CALIBRATION		PRE SLEEP		GLO EL SLEEP
	MS3 McARTHUR	MIR SFTY BRF		V E N T	RME 1306 OPS				PRE SLEEP				SLEEP
MIR	20-ESA REITER	MIR SFTY BRF		V E N T	FOOD XFER					PRE SLEEP			SLEEP
	20-CDR GIDZENKO	MIR SFTY BRF	P/TV SETUP MIR	V E N T	FOOD XFER	RESPLY XFER			H 2 O X F E R	PRE SLEEP	SMTNO SV4 R.3		SLEEP
	20-ENG AVDEYEV	MIR SFTY BRF	H 2 O X F E R	SMTNO SV5 R.1	V E N T	SMG TNO SV5 R.1	RME 1306 OPS			PRE SLEEP			SLEEP MIR STAR TRACKER
DAY/NIGHT													
ORBIT													
DAILY ORBIT	7	8	9	10	11	12	13	14					
MOON UP/DOWN													
EARTH TRACE													
SITE COVERAGE	<ul style="list-style-type: none"> -PPK -USK -PPK -ULD -USK 												
TDRS	E W												
ALTAIR	E W												
STACK ATT	IO 5.1 GO5.1 IO 4.3												
NOTES:	A GPP CABLE CK												

*MCC CONTROLLED P/TV

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE									
319:00:56 / 319:12:56		003:12:00 / 004:00:00		318:18:56 / 319:06:56		05/318 CST	-64.7		NOVEMBER 14, 1995	STS-74	FINAL A	11/06/95									
DMT	:319	4	5	6	7	8	9	10	11	12	13	14	15								
CST	:318	19	20	21	22	23	0	1	2	3	4	5	6								
FD	:05	12	13	14	15	16	17	18	19	20	21	22	23								
MET	:003					FD05															
													0								
STS	CDR/PLT CAMERON HALSELL	SLEEP				SMTNO SV5 R. 1	POST SLEEP	H ALT O T C S E	PRCS TEST	H O P E N	POST SLEEP	MIR ATT CNTL H/O	DLY PLN	S B R I E F	PIC MIR JET	SH ATT CNTL H/O	DTO 1118	SMTNO SV5 R. 1	MEAL	GIFT XCHG	V E N T
	MS1 HADFIELD	SLEEP				POST SLEEP				H2O CNTR FILL #7	DLY PLN	FILTER CLEANING	EXERCISE	RESPLY XFER	H X F E R	MEAL	GIFT XCHG	V E N T			
	MS2 ROSS	GPP EL SLEEP				POST SLEEP	P/TV13P & 15 S/U15 OPS	TV13 & 15 OPS	POST SLEEP	DTO 1118 S/U	DLY PLN	DTO 1118		EXERCISE	MEAL PREP	MEAL	GIFT XCHG	V E N T			
	MS3 McARTHUR	SLEEP				POST SLEEP	PICIMO S/UCSOL	PRCS TEST	POST SLEEP	DLY PLN	PRPIMO CSS N		PTIA CP E	PIC DEACT	RPF MOOD SIROCK	MEAL	GIFT XCHG	V E N T			
MIR	20-ESA REITER	SLEEP				POST SLEEP				DLY PLN	S B R I E F					MEAL	GIFT XCHG	V E N T			
	20-CDR GIDZENKO	SLEEP				SMTNO SV5 R. 1	POST SLEEP	H ALT O T C S E	PRCS TEST	H O P E N	POST SLEEP	DLY PLN	S B R I E F	PIC MIR JET		SMTNO SV5 R. 1	MEAL	GIFT XCHG	V E N T		
	20-ENG AVDEYEV	MIR STAR TRACKER	SLEEP			POST SLEEP	F S I A X	ST A R K	POST SLEEP	MIR ATT CNTL H/O	DLY PLN	S B R I E F		SH ATT CNTL H/O	RESPLY XFER	H X F E R	MEAL	GIFT XCHG	V E N T		
DAY/NIGHT																					
ORBIT	56	57	58	59	60	61	62	63	64												
DAILY ORBIT	14	15	16	1	2	3	4	5	6												
MOON UP/DOWN																					
EARTH TRACE																					
SITE COVERAGE	-ULD -USK -PPK		-ULD -USK -PPK -DJS -KLP		-KLP -ULD -USK -SHK -DJS		-DJS -KLP -ULD -SHK -SPB		-DJS -KLP -SHK -SPB		-SPB -SHK -DJS		-SPB -SHK								
TDRS	E													W							
ALTAIR	E													W							
STACK ATT	IO 4.3												IO 5.1	PRCS	IO 5.1						
NOTES:													o P/TV09 S/U PAO ▶ PIC TEMP CHG								

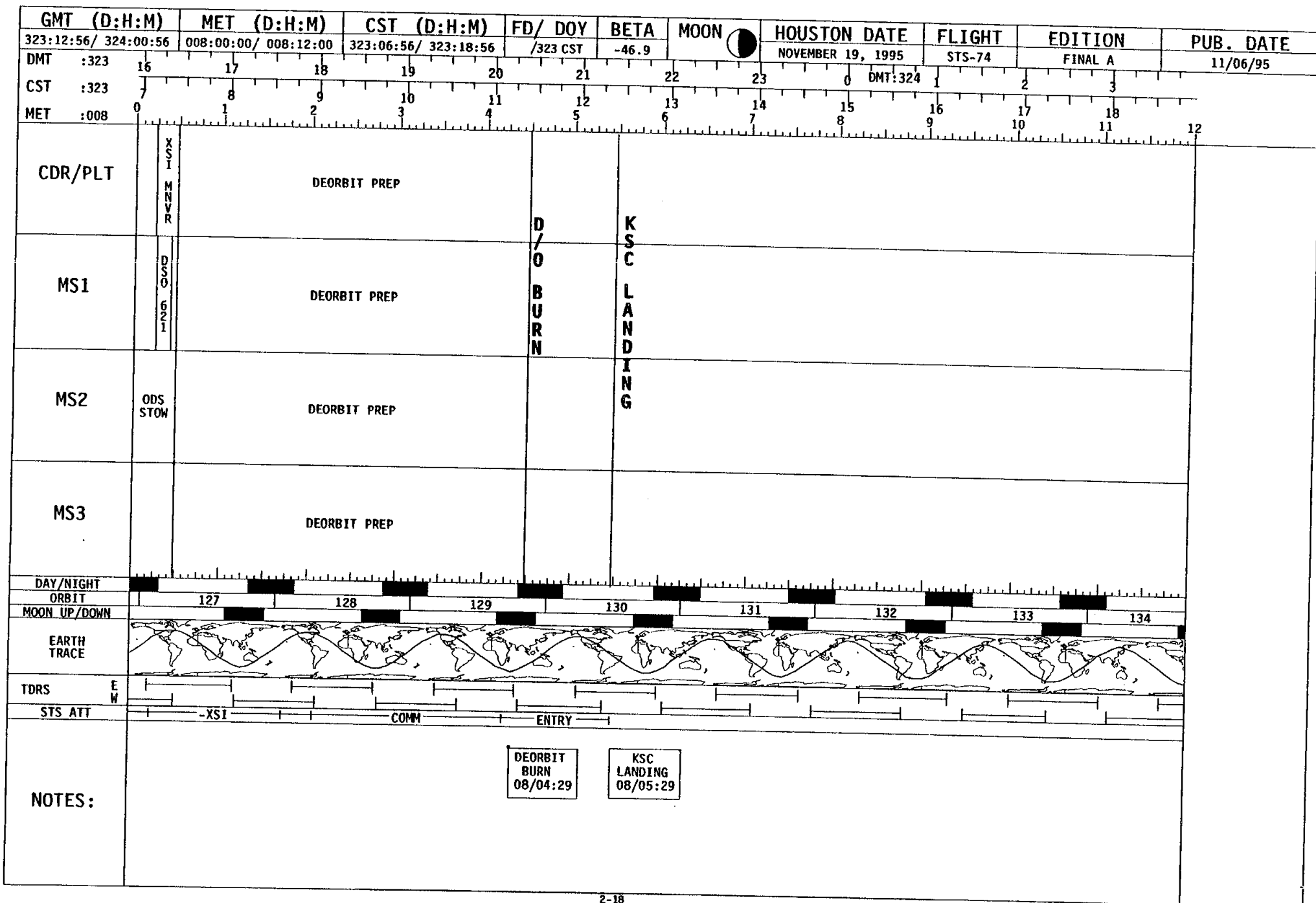
GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE											
319:12:56 / 320:00:56		004:00:00 / 004:12:00		319:06:56 / 319:18:56		05/319 CST	-63.1		NOVEMBER 15, 1995	STS-74	FINAL A	11/06/95											
DMT	:319	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	
CST	:319	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4
FD	:05	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
MET	:004	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
STS	CDR/PLT CAMERON HALSELL	SMG TNO SV5 R1	EXERCISE (CDR)	H2O CNTR FILL #8	HX 2F DE R	ESC DNLK	P/TV09 S/U PAO	POP PTY	VE P E N T	DAILY TAGUP	PMC	PRE SLEEP	SMI TNO SV4 R3	SLEEP									
	MS1 HADFIELD	R10 M30 EOE 5S T	RME 1305 OPS				POP PTY	VE P E N T	DAILY TAGUP		PRE SLEEP	PS AE DT MU P	PRE SLEEP	SLEEP									
	MS2 ROSS	TEF LID REPLACE	DTO 1118		DTO 1118		POP PTY	RESPLY XFER	DAILY TAGUP		PRE SLEEP			SLEEP									
	MS3 MCARTHUR	P/TV12 S/U ICBC	P/TV12 OPS ICBC	EXERCISE		POP PTY	RETURN XFER	DAILY TAGUP		PRE SLEEP				SLEEP									
MIR	20-ESA REITER					POP PTY				PRE SLEEP			SLEEP										
	20-CDR GIDZENKO	TEF LID REPLACE		HX 2F DE R	P/TV SETUP MIR	POP PTY	RESPLY XFER			PRE SLEEP	SMI TNO SV4 R3		SLEEP										
	20-ENG AVDEYEV	SMG TNO SV5 R1	RME 1305 OPS			POP PTY	RETURN XFER			PRE SLEEP			SLEEP	MIR STAR TRACKER									
DAY/NIGHT	[Day/Night Cycle]																						
ORBIT	64	65	66	67	68	69	70	71	72														
DAILY ORBIT	6	7	8	9	10	11	12	13	14														
MOON UP/DOWN	[Moon Cycle]																						
EARTH TRACE																							
SITE COVERAGE	-PPK -USK -PPK -PPK -USK -ULD -USK -PPK																						
TDRS	[TDRS Coverage]																						
ALTAIR	[ALTAIR Coverage]																						
STACK ATT	60 5.1 10 4.3																						
NOTES:																							

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE										
320:00:56/ 320:12:56		004:12:00/ 005:00:00		319:18:56/ 320:06:56		06/319 CST	-61.4		NOVEMBER 15, 1995	STS-74	FINAL A	11/06/95										
DMT	:320	4	5	6	7	8	9	10	11	12	13	14	15									
CST	:319	19	20	21	22	23	0	1	2	3	4	5	6									
FD	:06	12	13	14	15	16	17	18	19	20	21	22	23									
MET	:004					16	FD06						0									
													MET:005									
STS	CDR/PLT CAMERON HALSELL	SLEEP					MIR ATT CNTL H/O	MMG INO RV4 R.1	WDT AUN SMI TPT E	POST SLEEP	WDT AUE SMR TPM E	SH ATT CNTL H/O	SMI TNO SV5 R.1	DTO 1118 S/U	EVENT	DLY PLN	R10 M30 EOE 55 T	DTO 1118	P/TV13 S/U GPP	P/TV13 OPS GPP	ALT 6	MEAL
	MS1 HADFIELD	SLEEP					POST SLEEP					H2O CNTR FILL #9	EVENT	DLY PLN	MIR H2O SAMP KIT	H2O XFER	ESA H/W XFER			MEAL		
	MS2 ROSS	SLEEP					POST SLEEP					02 REPR	P/TV09 S/U PAO	EVENT	DLY PLN	RETURN XFER		PCG GN2 DEWAR XFER	MEAL			
	MS3 McARTHUR	SLEEP					POST SLEEP							EVENT	DLY PLN	RETURN XFER		PCG GN2 DEWAR XFER	MEAL			
MIR	20-ESA REITER	SLEEP					POST SLEEP							EVENT	DLY PLN	H2O XFER	ESA H/W XFER			MEAL		
	20-CDR GIDZENKO	SLEEP					MIR ATT CNTL H/O	MMG INO RV4 R.1	SHUTTLE WASTE DUMP		SH ATT CNTL H/O	SMI TNO SV5 R.1	P/TV SETUP MIR	EVENT	DLY PLN	MIR H2O SAMP KIT	MIR H2O SAMP	FS IA X	ST MIR H2O SAMP	MEAL		
	20-ENG AVDEYEV	SLEEP					POST SLEEP					MIR STAR TRACKER		EVENT	DLY PLN	RETURN XFER		PCG GN2 DEWAR XFER	MEAL			
DAY/NIGHT																						
ORBIT		72	73	74	75	76	77	78	79	7												
DAILY ORBIT		14	15	1	2	3	4	5	6	7												
MOON UP/DOWN																						
EARTH TRACE																						
SITE COVERAGE		<ul style="list-style-type: none"> -DJS -KLP -ULD -USK -PPK <ul style="list-style-type: none"> -DJS -KLP -ULD -USK <ul style="list-style-type: none"> -SPB -DJS -KLP -ULD -SHKUSK <ul style="list-style-type: none"> -SPB -SHK -DJS -KLP <ul style="list-style-type: none"> -SHK -DJS <ul style="list-style-type: none"> -SPB -SHK -DJS 																				
TORS																						
ALTAIR																						
STACK ATT		10 4.3 GO 4.1 10 5.1																				
NOTES:		<ul style="list-style-type: none"> ⊙ UPLINK FC PURGE ■ MCIU FLTR CHECK ⊙ SHUTTLE TO ALT DAP MODE ○ EXERCISE (PLT) ┌───┐ PASDE TERMINATOR TEST 																				

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
320:12:56 / 321:00:56		005:00:00 / 005:12:00		320:06:56 / 320:18:56		06/320 CST	-59.6		NOVEMBER 16, 1995	STS-74	FINAL A	11/06/95					
DMT	:320	16	17	18	19	20	21	22	23	0	DMT:321	1	2	3			
CST	:320	7	8	9	10	11	12	13	14	15	16	17	18	19			
FD	:06	0	1	2	3	4	5	6	7	8	9	10	11	12			
MET	:005																
STS	CDR/PLT CAMERON HALSELL	RETURN XFER	SMG TNO SV5 R.1	CREW CONF	OR ET RLE	CAO NCH ETCOR PLE N	M I R	FARE WELL	R10 M30 E0E 5S U	EXERCISE (CDR)	ESC DNLK	DAILY TAGUP	PRE SLEEP	PMO	PRE SLEEP	SMI TNO SV4 R.3	SLEEP
	MS1 HADFIELD	H2O CNTR FILL #10		CREW CONF	MIR H2O SAMP XFR	H2O XFER	FARE WELL	ADR IUM RCV T	UNDK PREP HATCH CL	C/L CMR MOUNT	DAILY TAGUP	PS AE DT MU P	PRE SLEEP		PRE SLEEP		SLEEP
	MS2 ROSS	RETURN XFER	P/TV09 S/U PAO	CREW CONF	R10 M30 E0E 5S U	P/TV09 S/U PAO	FARE WELL	I N S H T L S	P/TV12 S/U ICBC	P/TV06 S/U UNDOCK	DAILY TAGUP		PRE SLEEP		PRE SLEEP		SLEEP
	MS3 McARTHUR	R10 M30 E0E 5S U	EXERCISE	CREW CONF		PGSC SETUP	FARE WELL		UNDK PREP HATCH CL	DAILY TAGUP		PRE SLEEP		PRE SLEEP		SLEEP	
MIR	20-ESA REITER			CREW CONF		FARE WELL					PRE SLEEP		PRE SLEEP		SLEEP		
	20-CDR GIDZENKO	MIR H2O SAMP	P/TV SETUP MIR	CREW CONF	MIR H2O SAMP XFR	H2O XFER	FARE WELL	ADR IUM RCV T	P/TV SETUP MIR		PRE SLEEP		PRE SLEEP		SLEEP		
	20-ENG AVDEYEV	RETURN XFER	SMG TNO SV5 R.1	CREW CONF		P/TV SETUP MIR	FARE WELL		UNDK PREP HATCH CL		PRE SLEEP		PRE SLEEP	SMI TNO SV4 R.3	SLEEP		
DAY/NIGHT																	
ORBIT	80 81 82 83 84 85 86 87																
DAILY ORBIT	7 8 9 10 11 12 13 14																
MOON UP/DOWN																	
EARTH TRACE																	
SITE COVERAGE	-USK -PPK -USK -PPK -USK -PPK																
TDRS	E W																
ALTAIR	E W																
STACK ATT	IO 5.1 GO 5.1 IO 4.3																
NOTES:	⊙ SHUTTLE TO VERNIER JET CONTROL																

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE													
321:00:56/ 321:12:56		005:12:00/ 006:00:00		320:18:56/ 321:06:56		07/320 CST	-57.6		NOVEMBER 16, 1995	STS-74	FINAL A	11/06/95													
DMT	:321	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	MET:006		
CST	:320	19	20	21	22	23	0	CST:321	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
FD	:07	12	13	14	15	16	FD07	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8		
MET	:005																								
STS	CDR/PLT CAMERON HALSELL	SLEEP					POST SLEEP	SMG TNO SV3 R; i	MIR ATT CNTL H/O	UNDOCK			Z L V R	M N V R	EXERCISE (CDR)	OMS BURN									
	MS1 HADFIELD	SLEEP					POST SLEEP			R W D N	ODS PREP FOR EGR	UNDOCK	ODS PREP FOR INGR	RTH BAG STOW											
	MS2 ROSS	SLEEP					POST SLEEP				UNDOCK	P/TV06 OPS UNDOCK	RTH BAG STOW					EXERCISE							
	MS3 McARTHUR	SLEEP					POST SLEEP				UNDOCK *	UNDOCK													
MIR	20-ESA REITER	SLEEP					POST SLEEP																		
	20-CDR GIDZENKO	SLEEP					POST SLEEP	SMG TNO SV3 R; i	MIR ATT CNTL H/O			P/TV UNDOCK/FLY													
	20-ENG AVDEYEV	SLEEP					POST SLEEP			MIR UNDOCK	MIR MNVR SUN TRK	MONITOR FLYAROUND													
DAY/NIGHT																									
ORBIT																									
DAILY ORBIT																									
MOON UP/DOWN																									
EARTH TRACE																									
SITE COVERAGE		-DJS -DJS -DJS -SPB -SHK -KLP -KLP -KLP -DJS -DJS -ULD -ULD -ULD -KLP -DJS -USK -USK -USK -ULD -KLP -PPK -SHK -SHK -SHK -DJS																							
TDRS																									
ALTAIR																									
STACK ATT		IO 4.3 GO 3.1 FLYAROUND -Z TRK -ZLV -XVV																							
NOTES:		* 5/18:38 (AOS SHK) * 5/20:23 @-ZLV, -XVV @RMS HTR ACT																							

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE										
322:00:56/ 322:12:56	006:12:00/ 007:00:00	321:18:56/ 322:06:56	08 /321 CST	-53.5		NOVEMBER 17, 1995	STS-74	FINAL A	11/06/95										
DMT :322																			
CST :321																			
FD :08																			
MET :006									MET:007										
CDR/PLT CAMERON HALSELL	SLEEP			POST SLEEP	-ZLV MNV R	WASTE INIT	DUMP MNV R	POST SLEEP	AA HTR	WASTE TERM	-XLV MNV R	POST SLEEP	FCS C/O			PAO OPPTY	D/O PREP BRIEF	PIC MNV R	PIC PRCS JET
MS1 HADFIELD	GLO EL SLEEP			POST SLEEP		RING EXT		POST SLEEP				POST SLEEP	XFER ITEM STOW			PAO OPPTY	D/O PREP BRIEF		XFER ITEM STOW
MS2 ROSS	SLEEP							POST SLEEP					EXERCISE		P/TVO9 S/U PAO	PAO OPPTY	D/O PREP BRIEF		XFER ITEM STOW
MS3 McARTHUR	SLEEP							POST SLEEP				PS CAP D/S	PC COL	XFER ITEM STOW		PAO OPPTY	D/O PREP BRIEF	PIC MNV R	PT IE CM P CHG
DAY/NIGHT																			
ORBIT	103 104 105 106 107 108 109 110 111																		
MOON UP/DOWN																			
EARTH TRACE																			
TDRS																			
STS ATT	-XLV +ZVV (GLO EL) -ZLV +YVV -XLV -YVV (APAS)																		
NOTES:	<ul style="list-style-type: none"> ⊙ UPLINK FC PURGE ⊙ -ZLV, +YVV ⊙ -XLV -YVV ■ APDS HTR DEACT ⊙ APU HTR RECONFIG ■ APAS DCU PWR 																		

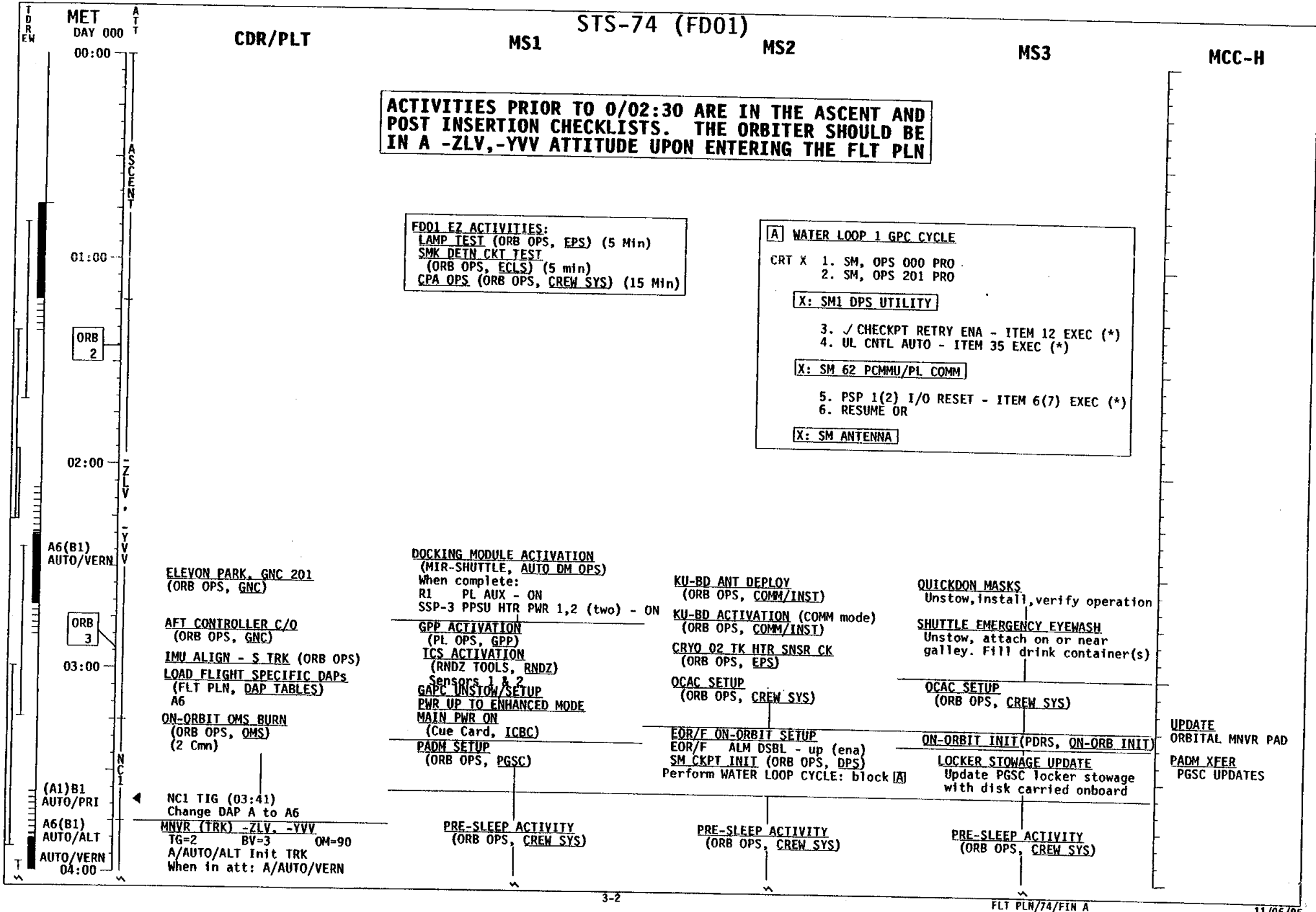


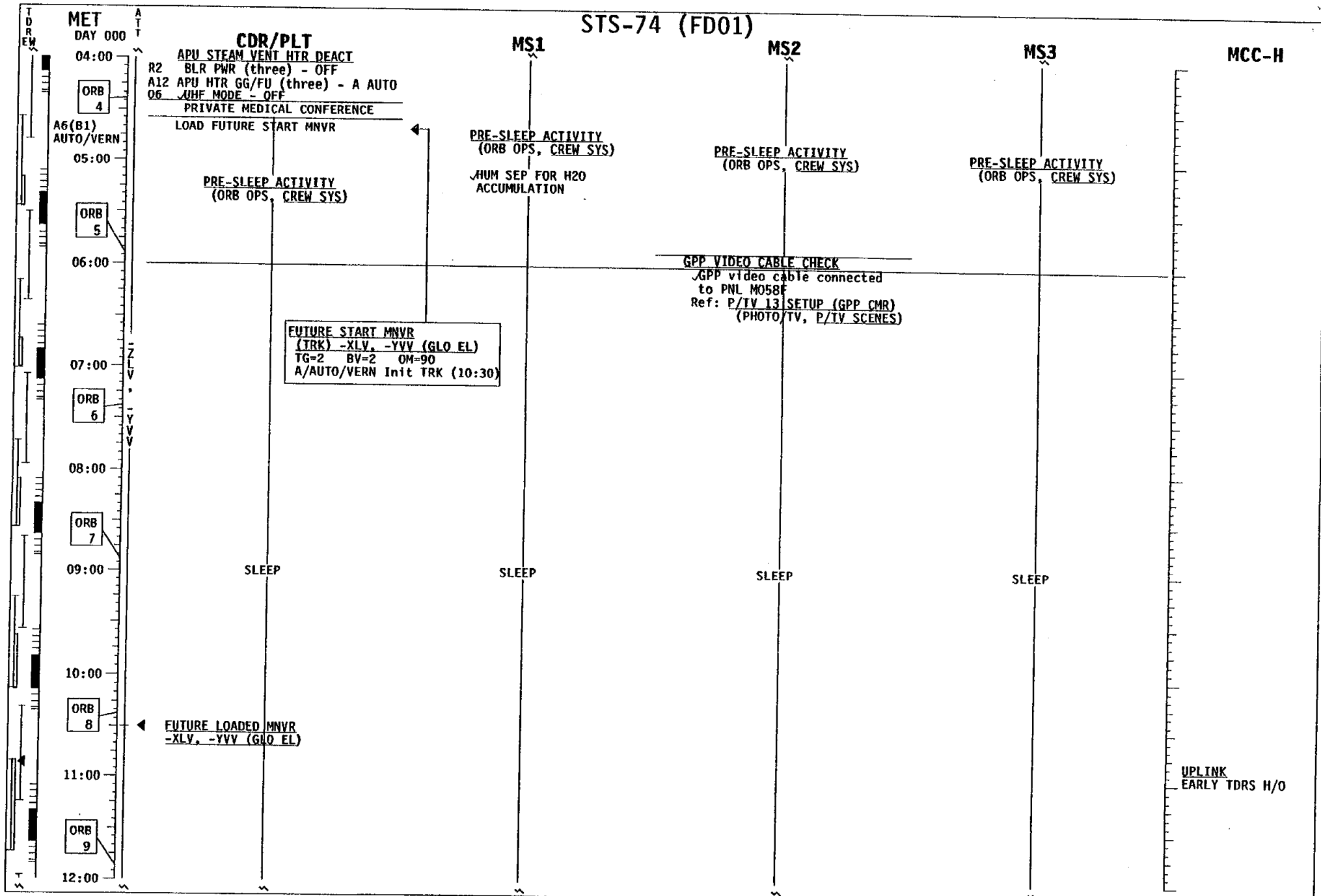
DETAILED/JOINT TIMELINES

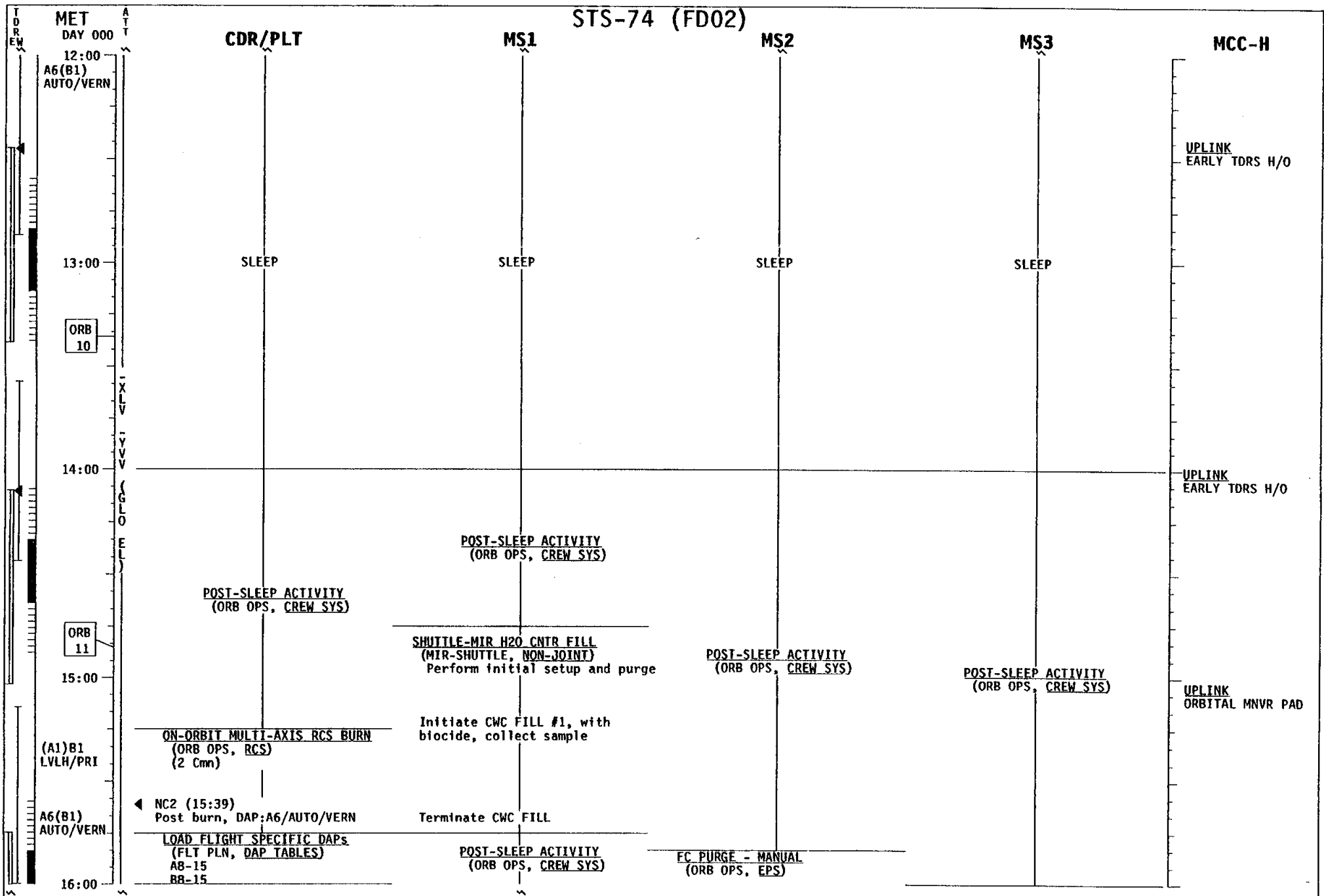
DETAILED TIMELINE 3-2
CYRILLIC JOINT TIMELINE 3B-13

DETAILED/JOINT
TIMELINES

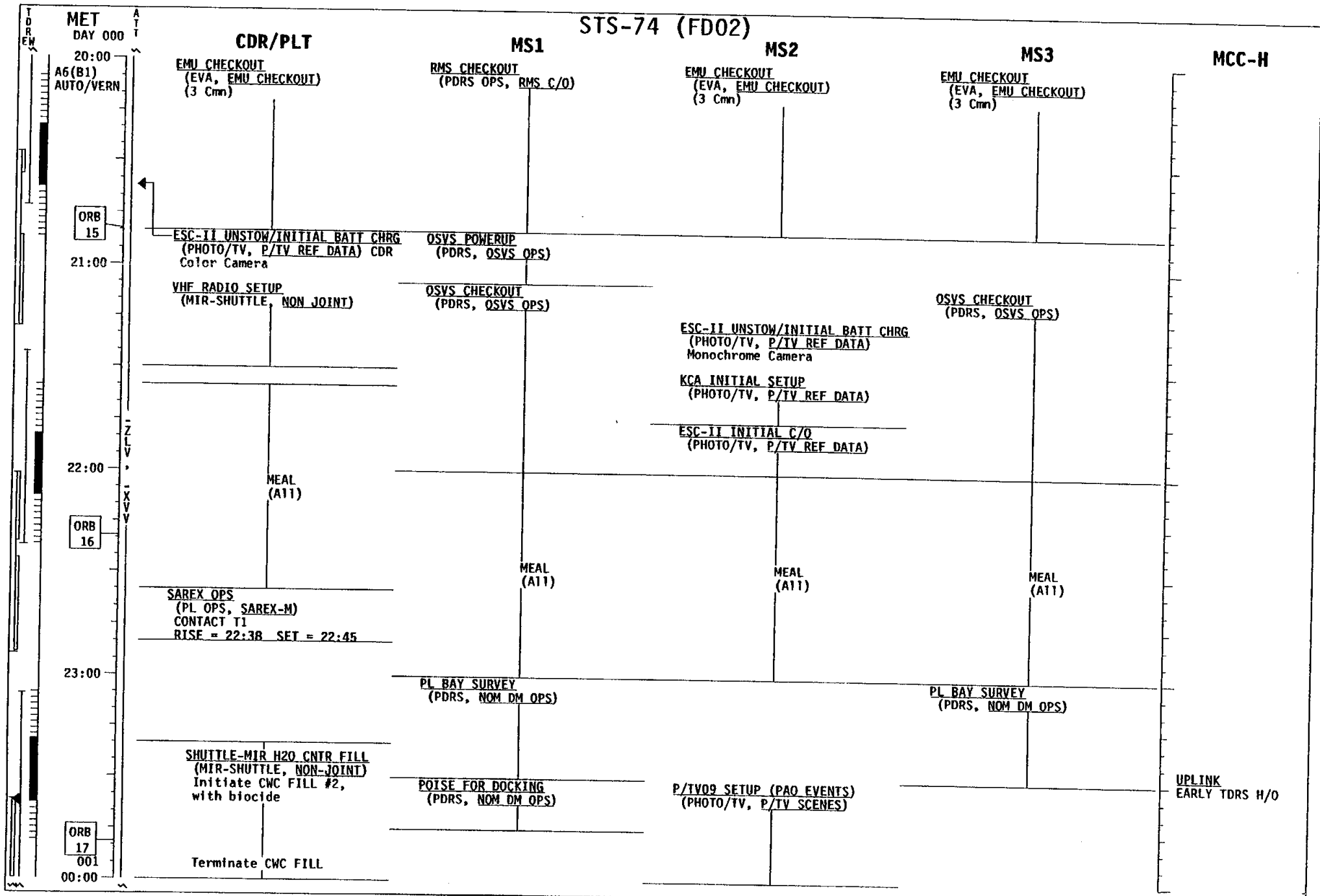
DETAILED/JOINT TIMELINES

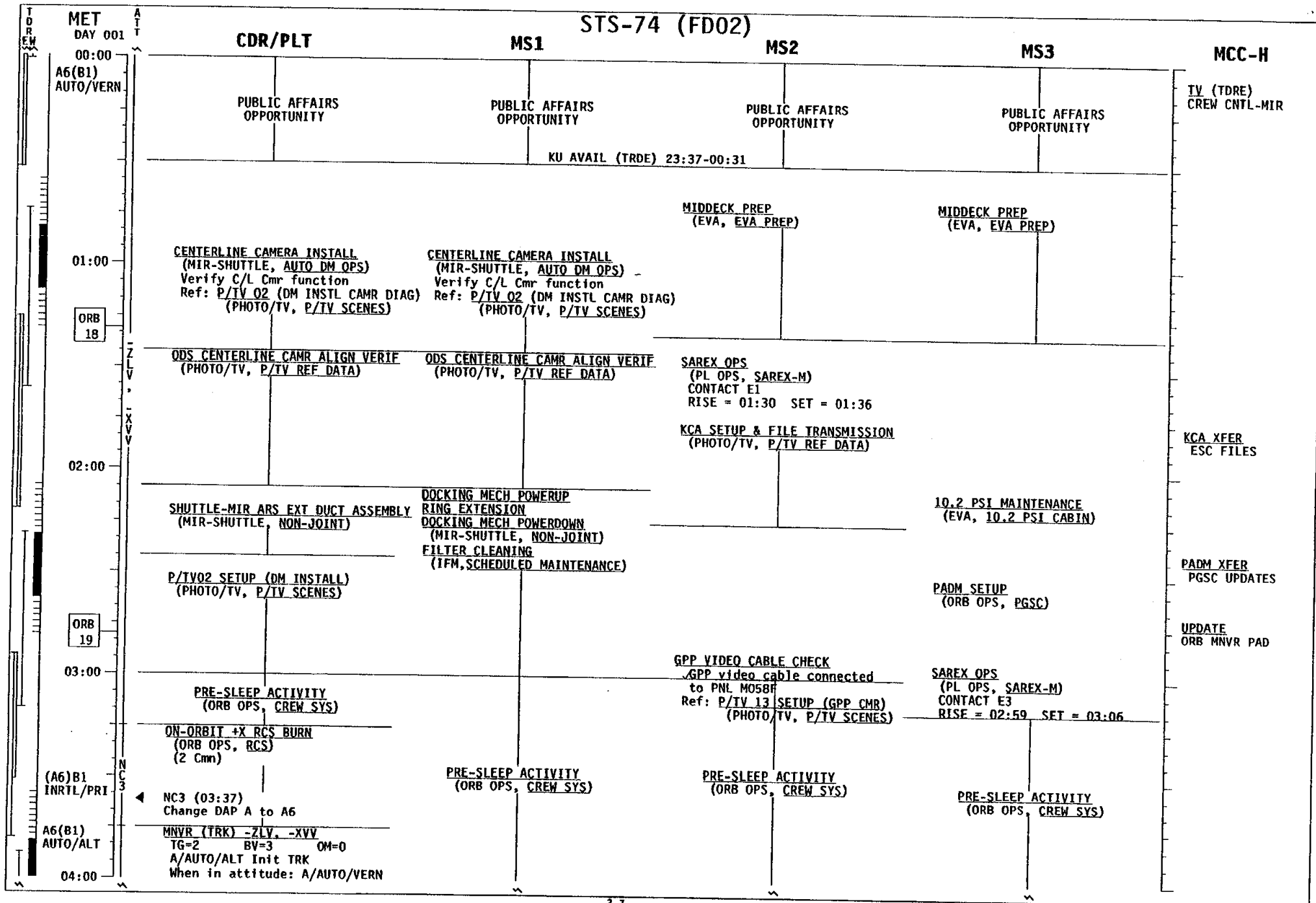


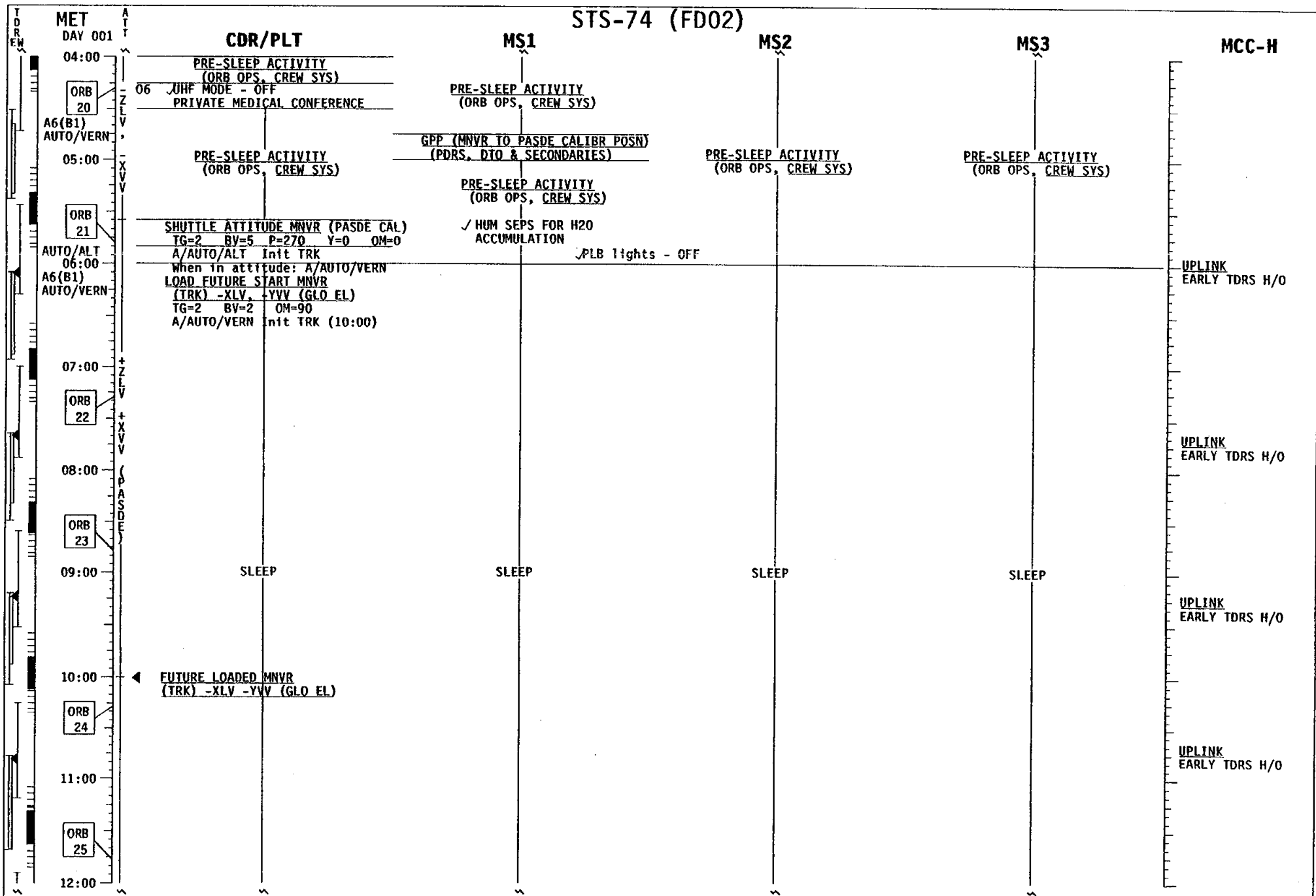


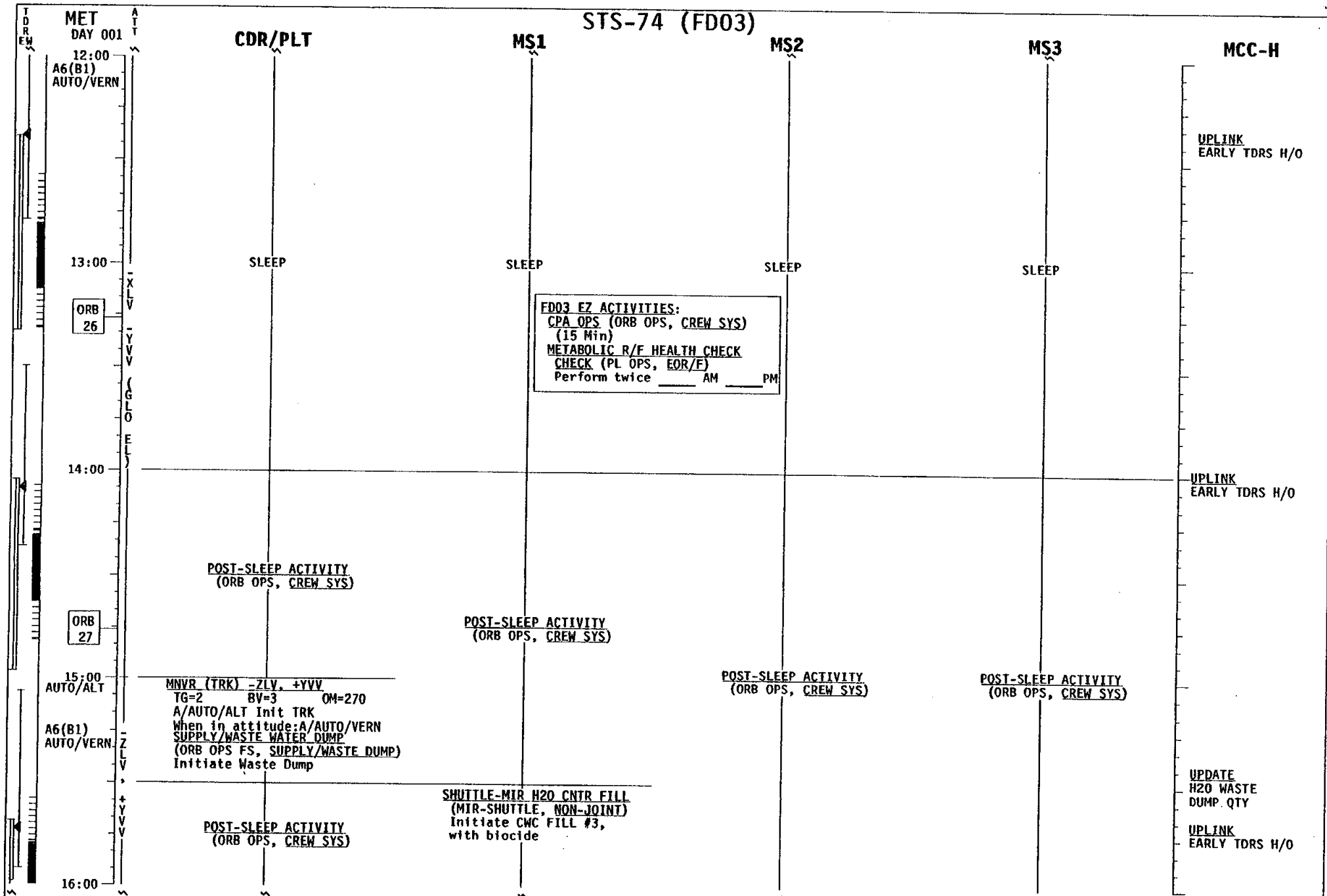


		STS-74 (FD02)					
MET DAY 000		CDR/PLT	MS1	MS2	MS3	MCC-H	
16:00	A6(B1) AUTO/VERN			POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	UPLINK REFSMMAT NORMALIZATION	
	ORB 12	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	EVA CREW TAKE ONE ASPIRIN TABLET (325 mg)	EVA CREW TAKE ONE ASPIRIN TABLET (325 mg)		
17:00	(A1)B5 INTL/VERN	MNVR IMU ALIGN/COAS CAL ATT STAR PAIR (A1) A/AUTO/ALT (17:05) Init MNVR When in att: A/AUTO/VERN IMU ALIGN - \$ TRK (ORB OPS) COAS CALIBRATION (ORB OPS)	COAS CALIBRATION LOG STAR ID: -Z 32, ALDEBARAN STAR AVAIL: 17:19 to 17:59 -Z Δ BIAS _____ UPDATE TIME: ____/____:____	ERGOMETER SETUP (BIOMED, CYCLE ERGOMETER)	ERGOMETER SETUP (BIOMED, CYCLE ERGOMETER)		
	A6(B1) AUTO/ALT AUTO/VERN	Change DAP A,B to A6,B1 MNVR (TRK) -ZLV, -XVV TG=2 BV=3 OM=0 A/AUTO/ALT Init TRK When in att: A/AUTO/VERN AIRLOCK PREP (EVA, AIRLOCK PREP)	ABL PORT RMS HTR (two)-AUTO OSVS POWERUP (PDRS, OSVS OPS) Step 1	MASK PREBREATHE INITIATE (EVA, 10.2 PSI CABIN) (2 Cmn)	MASK PREBREATHE INITIATE (EVA, 10.2 PSI CABIN) (2 Cmn)		
18:00	ORB 13			AIRLOCK PREP (EVA, AIRLOCK PREP)	AIRLOCK PREP (EVA, AIRLOCK PREP)		
		PREP FOR 10.2 PSI CABIN (EVA, 10.2 PSI CABIN) (2 Cmn) CABIN DEPRESS TO 10.2 PSI (EVA, 10.2 PSI CABIN) (2 Cmn)		FD02 EZ ACTIVITIES: EXERCISE (1 Hr/Alt) CPA OPS (ORB OPS, CREW SYS) (15 Min) METABOLIC R/F HEALTH CHECK (PL OPS, EOR/F) Perform twice ____ AM ____ PM			
19:00				MASK PREBREATHE TERMINATE (EVA, 10.2 PSI CABIN) (2 Cmn)	MASK PREBREATHE TERMINATE (EVA, 10.2 PSI CABIN) (2 Cmn)		
	ORB 14	10.2 PSI CABIN CONFIG (EVA, 10.2 PSI CABIN) EMU CHECKOUT (EVA, EMU CHECKOUT) (3 Cmn)	L17 Check MCIU filter screen	EMU CHECKOUT (EVA, EMU CHECKOUT) (3 Cmn)	EMU CHECKOUT (EVA, EMU CHECKOUT) (3 Cmn)		
20:00							
			RMS POWERUP (PDRS OPS, RMS PWRUP) RMS CHECKOUT (PDRS OPS, RMS C/O)				

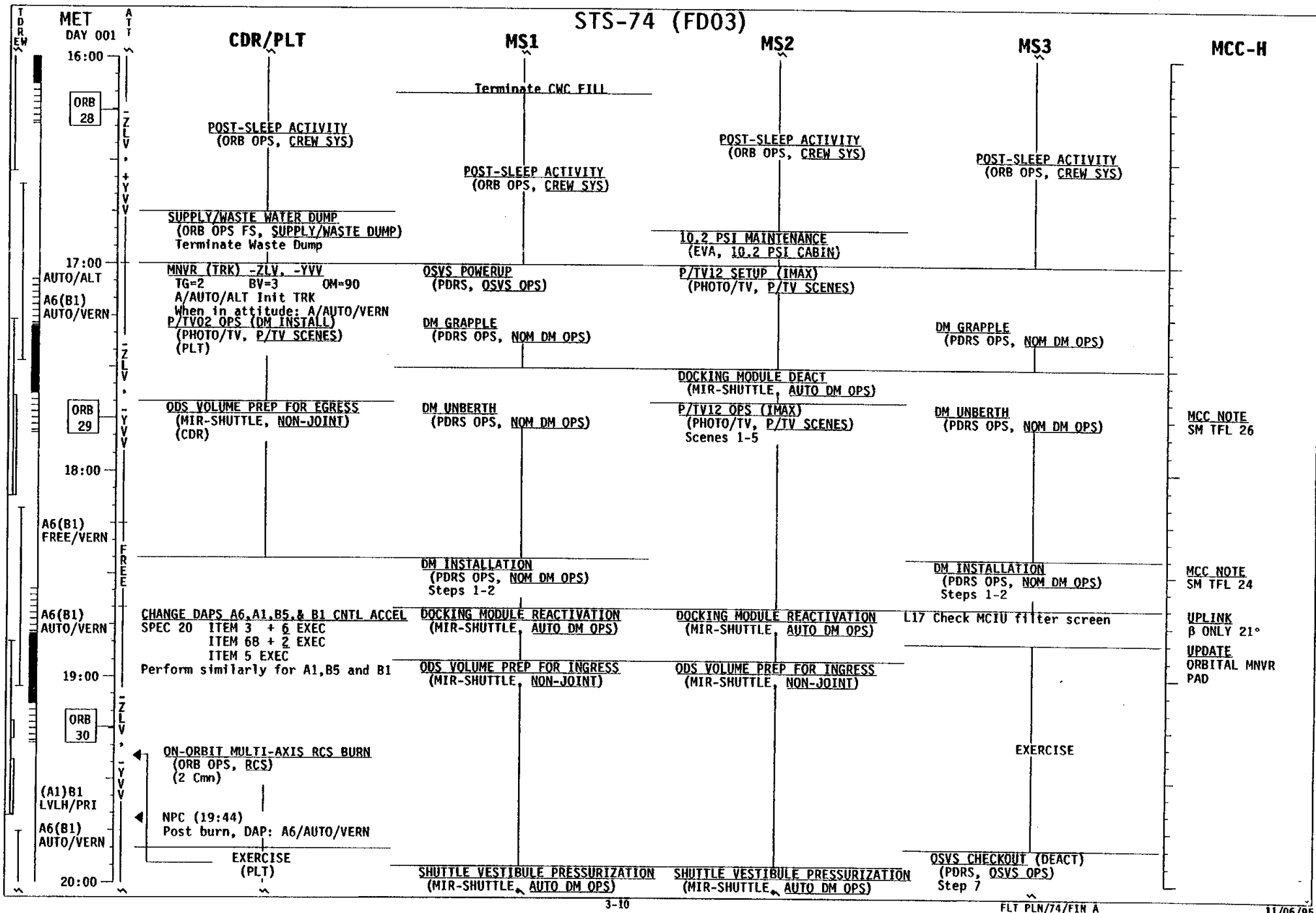


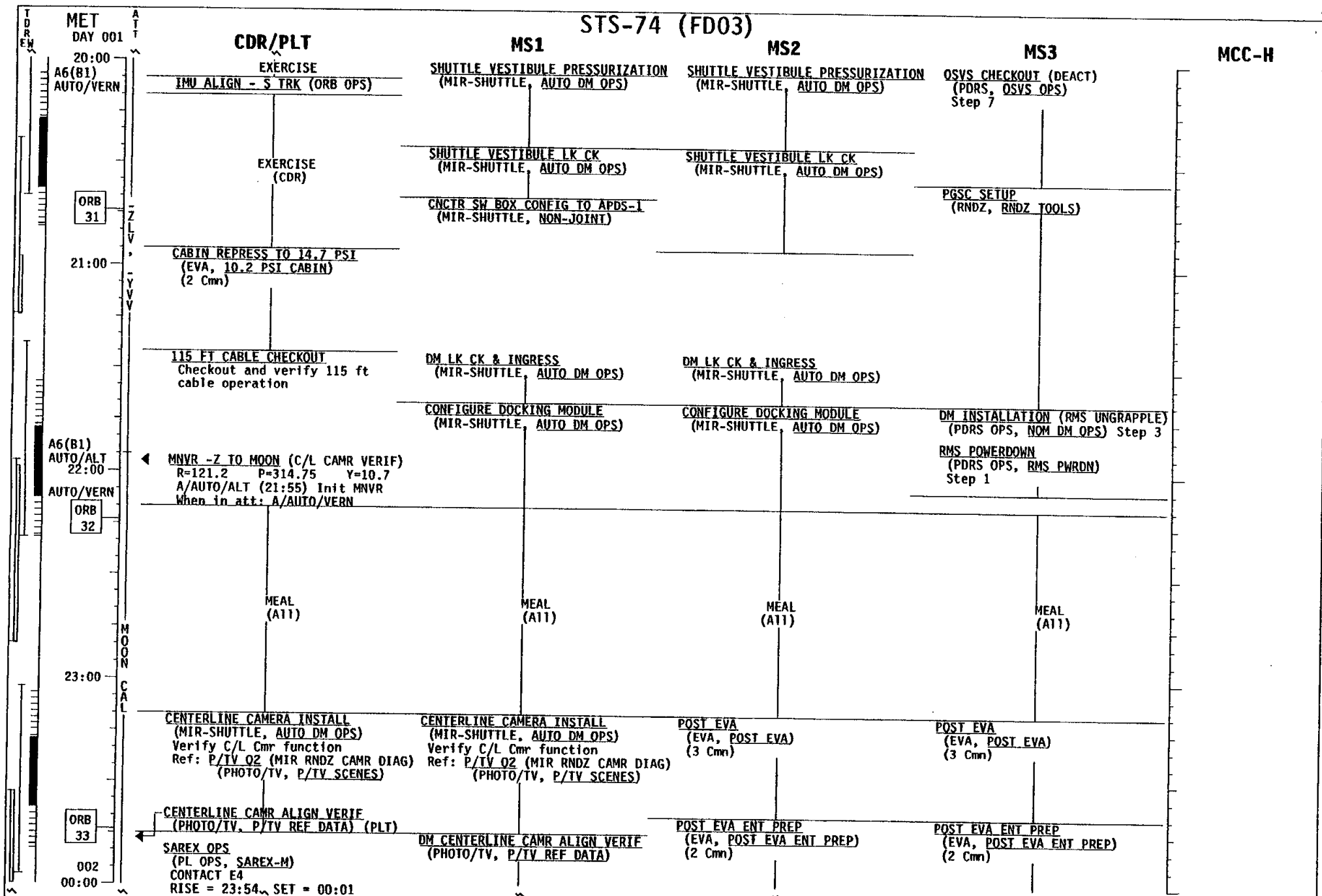


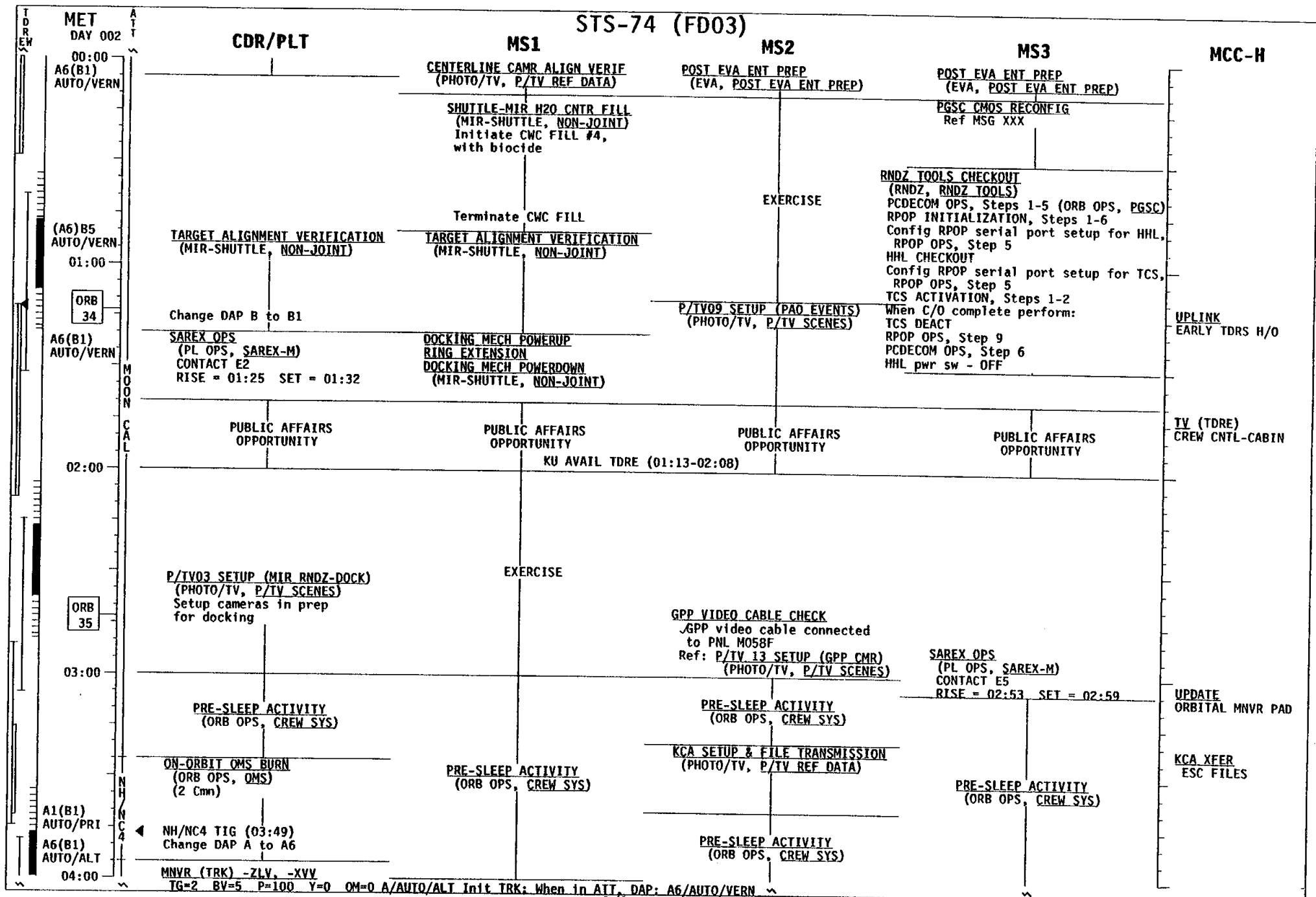


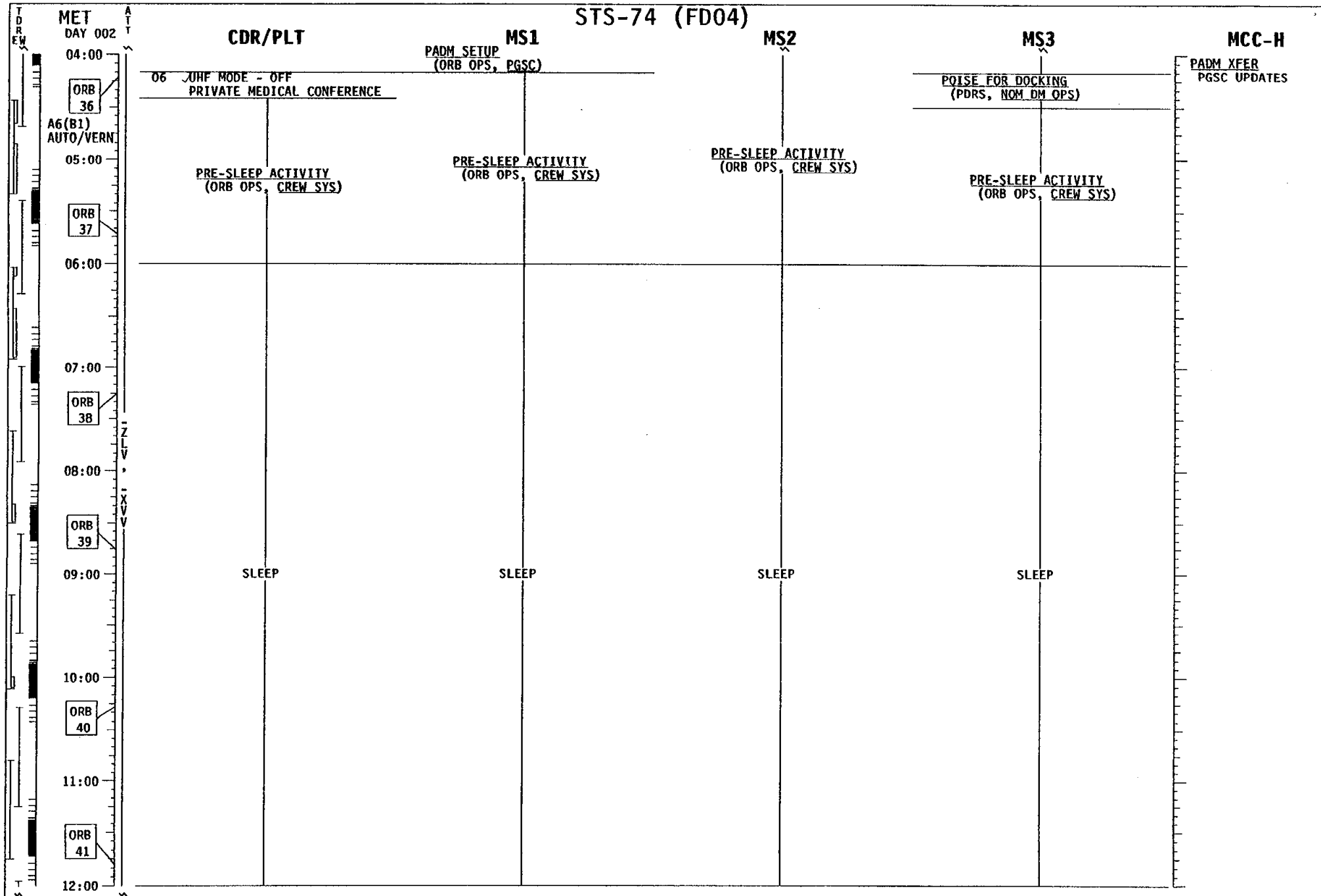


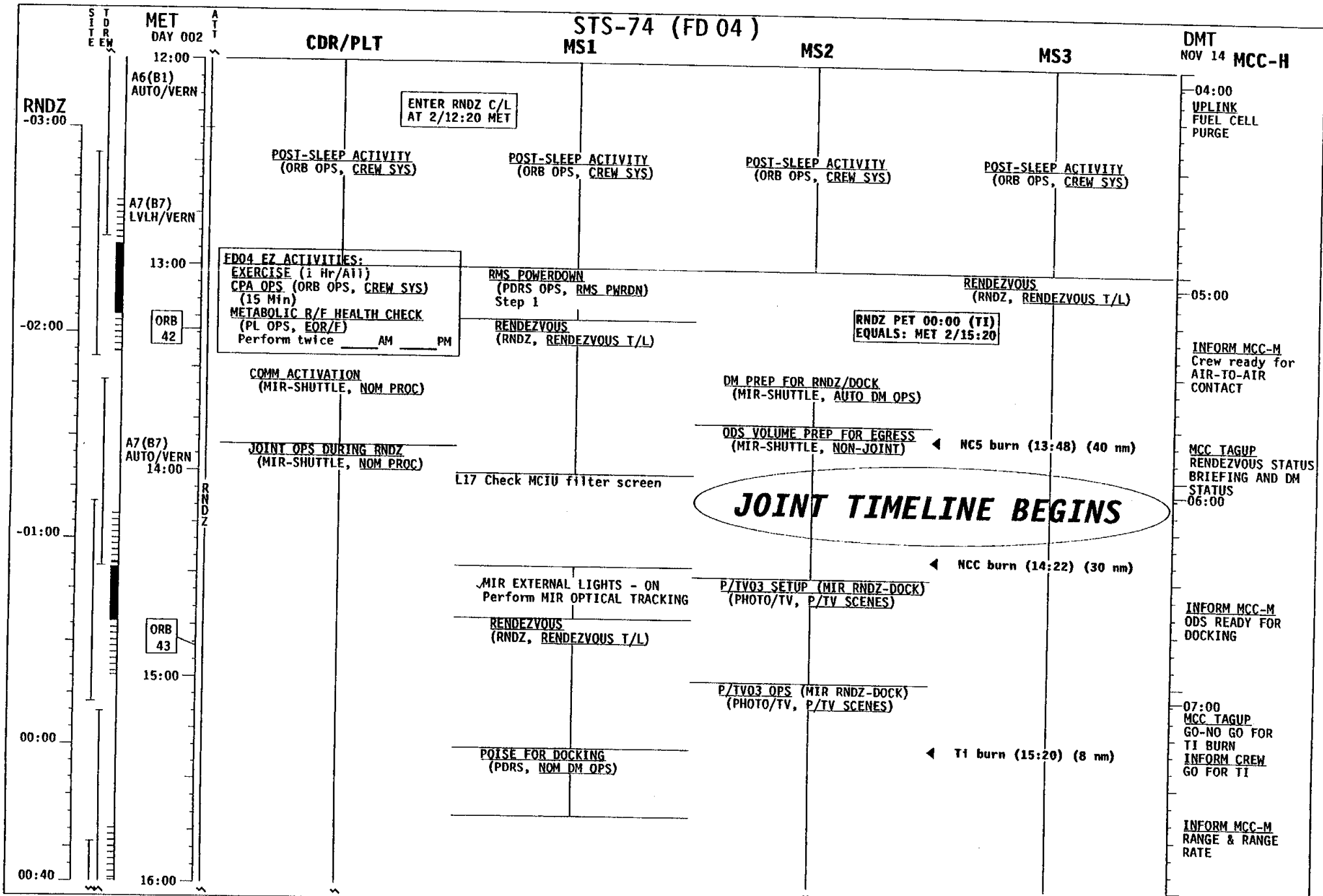
FD03 EZ ACTIVITIES:
 CPA OPS (ORB OPS, CREW SYS)
 (15 Min)
 METABOLIC R/F HEALTH CHECK
 CHECK (PL OPS, EOR/F)
 Perform twice ____ AM ____ PM

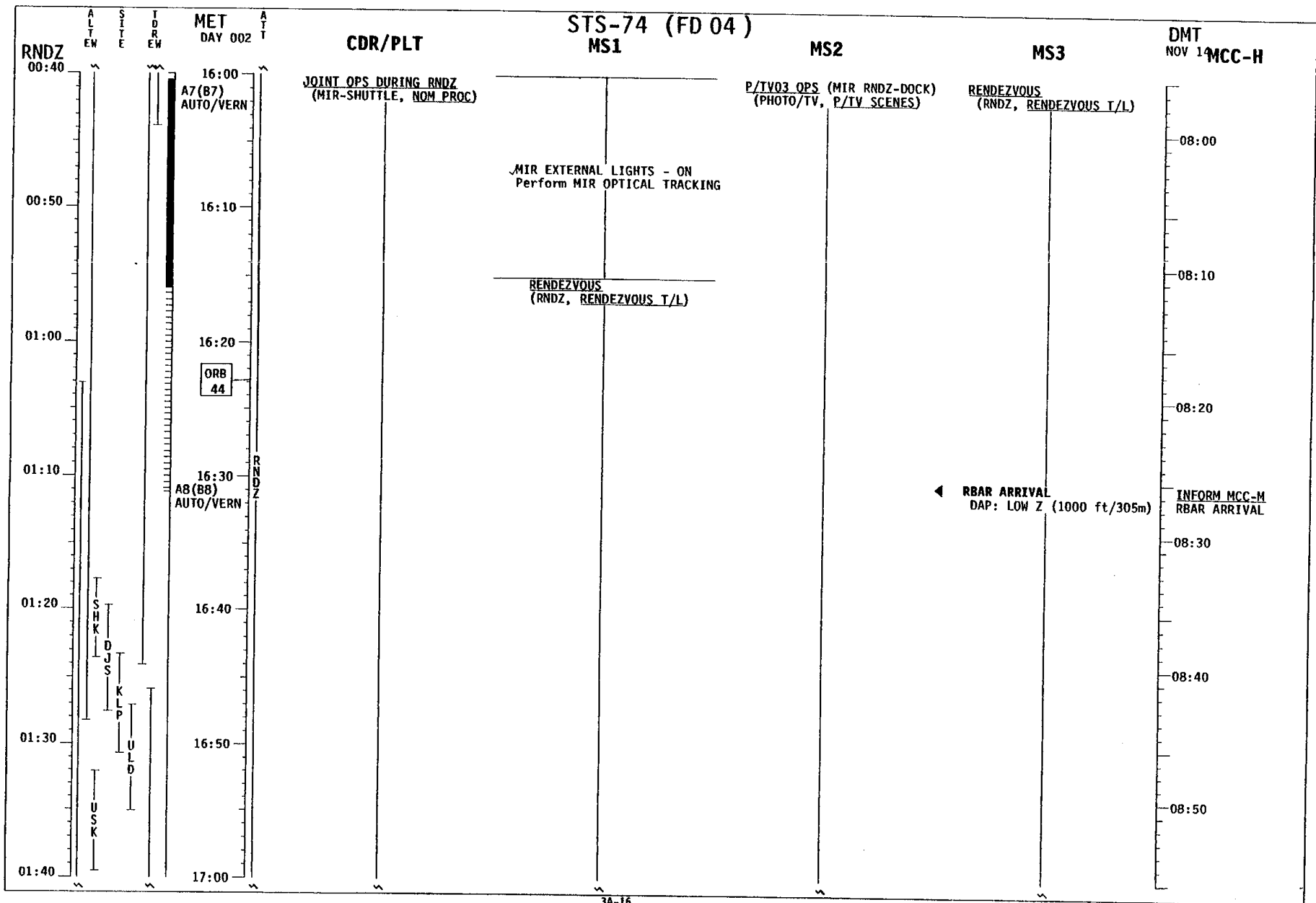


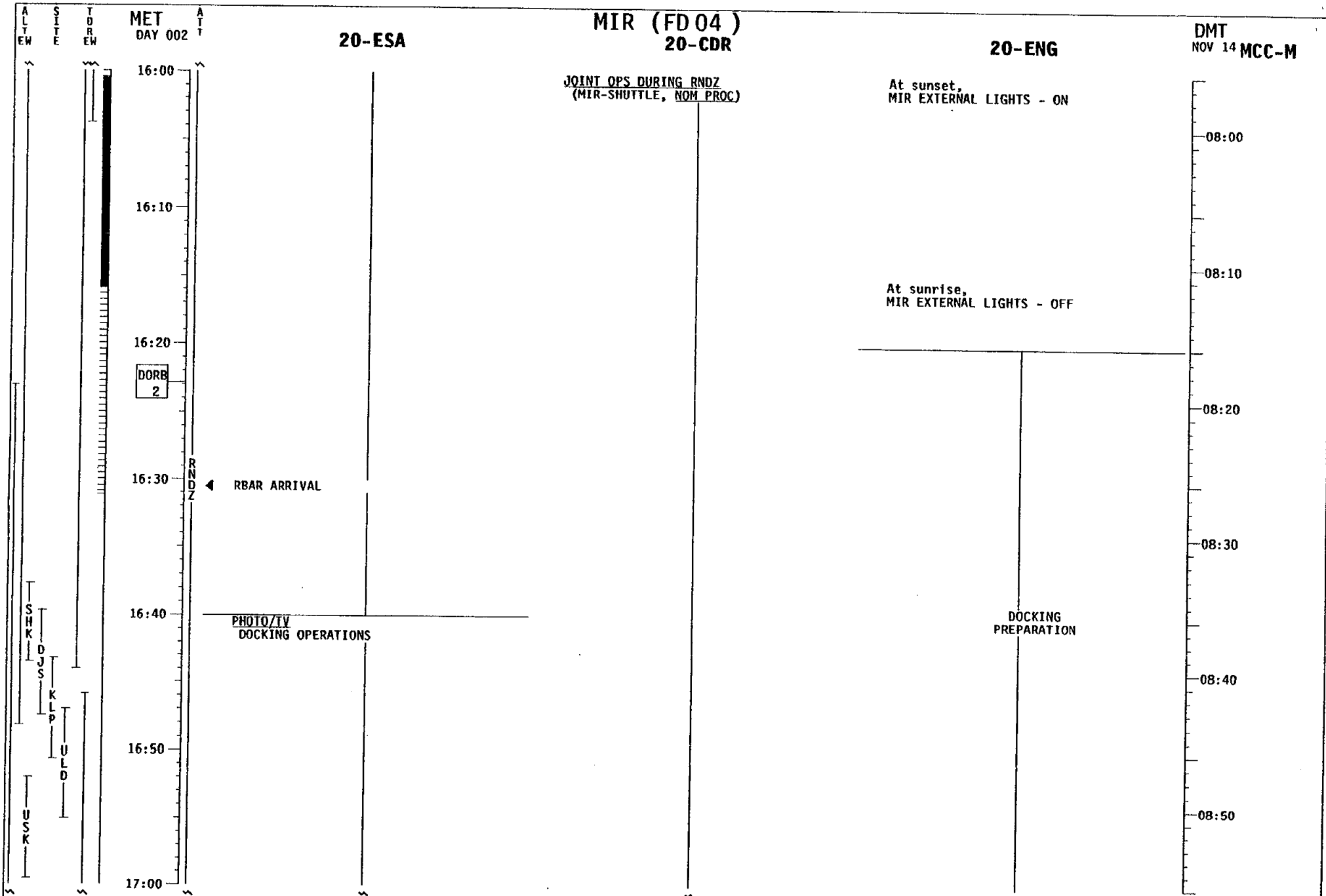


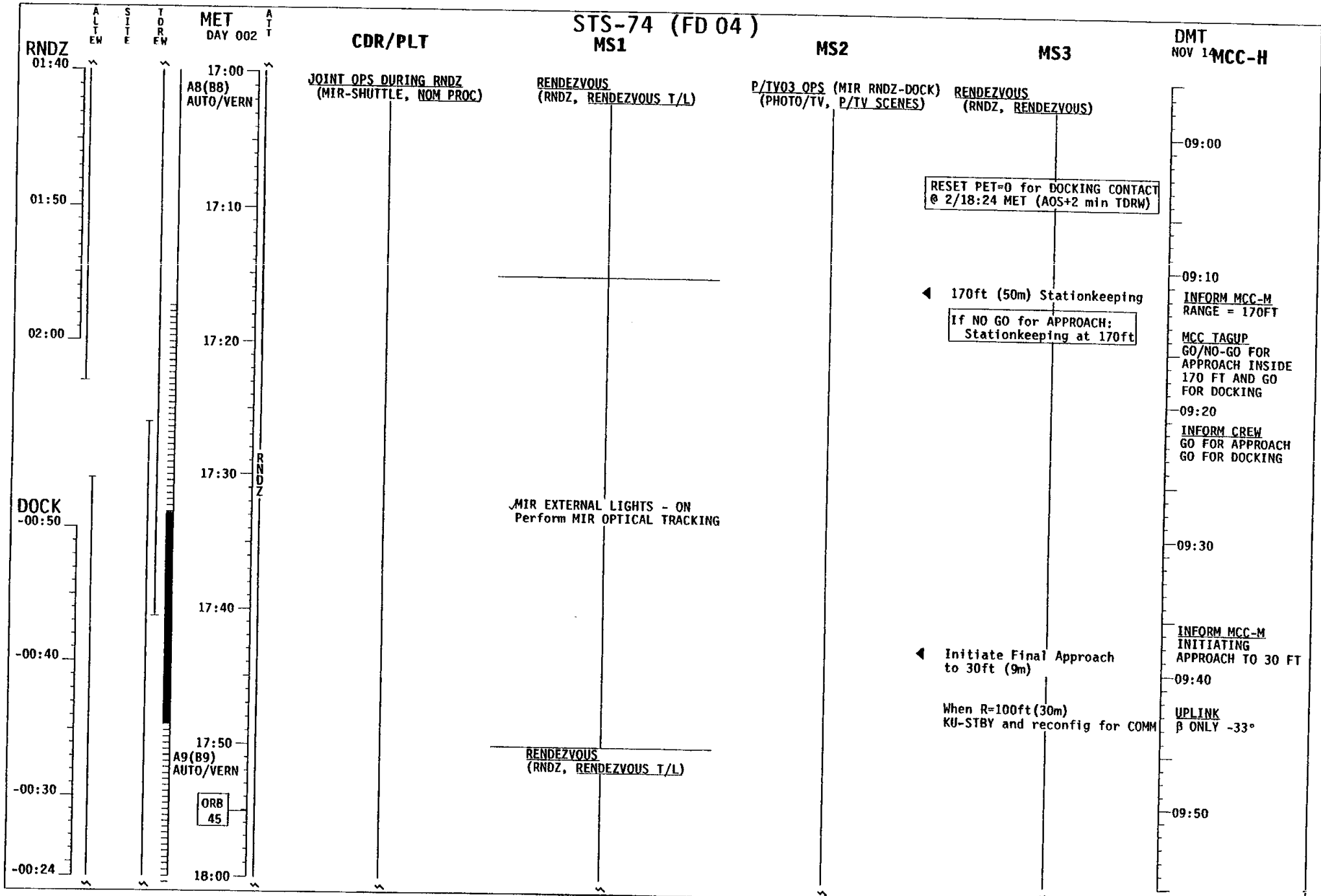


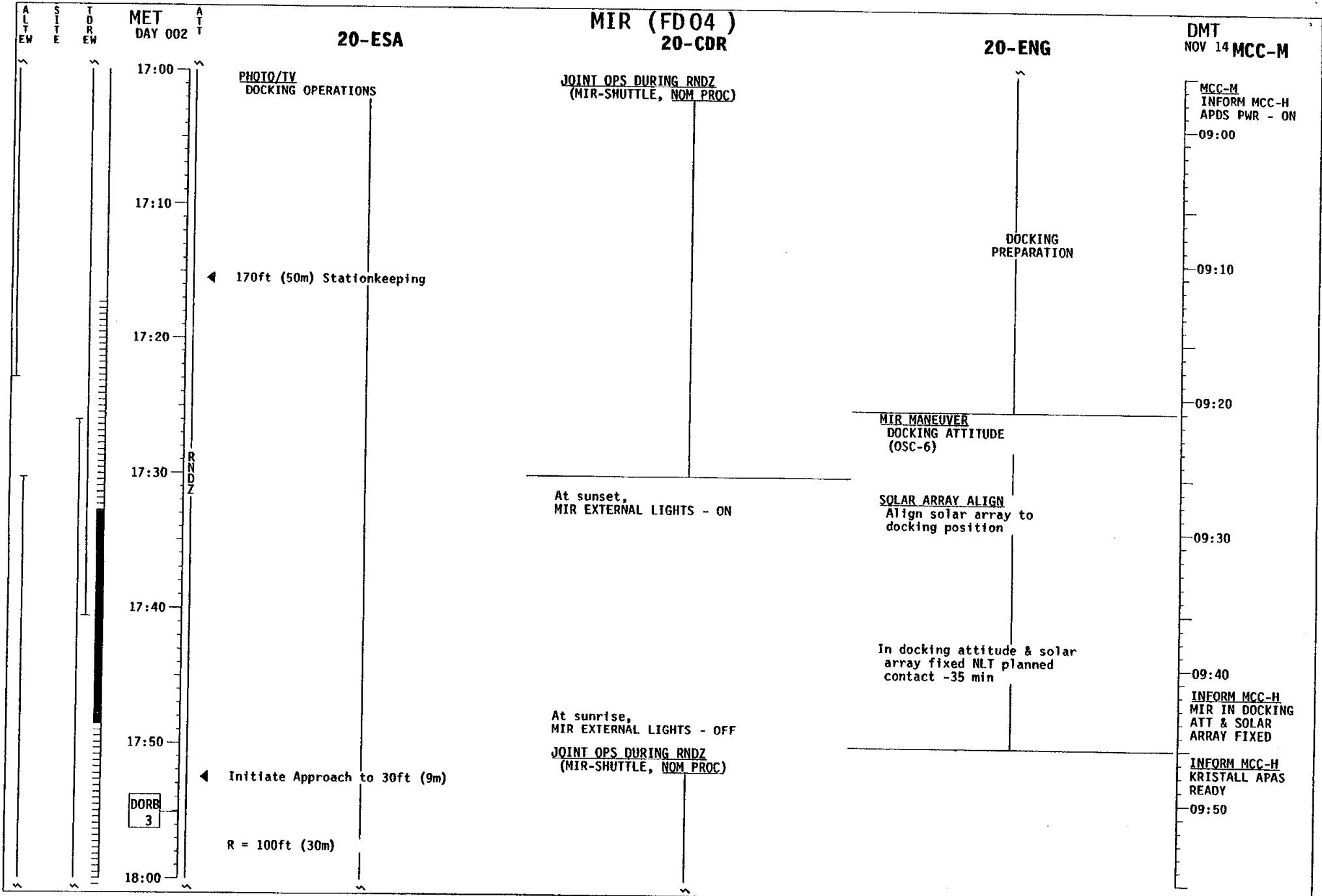


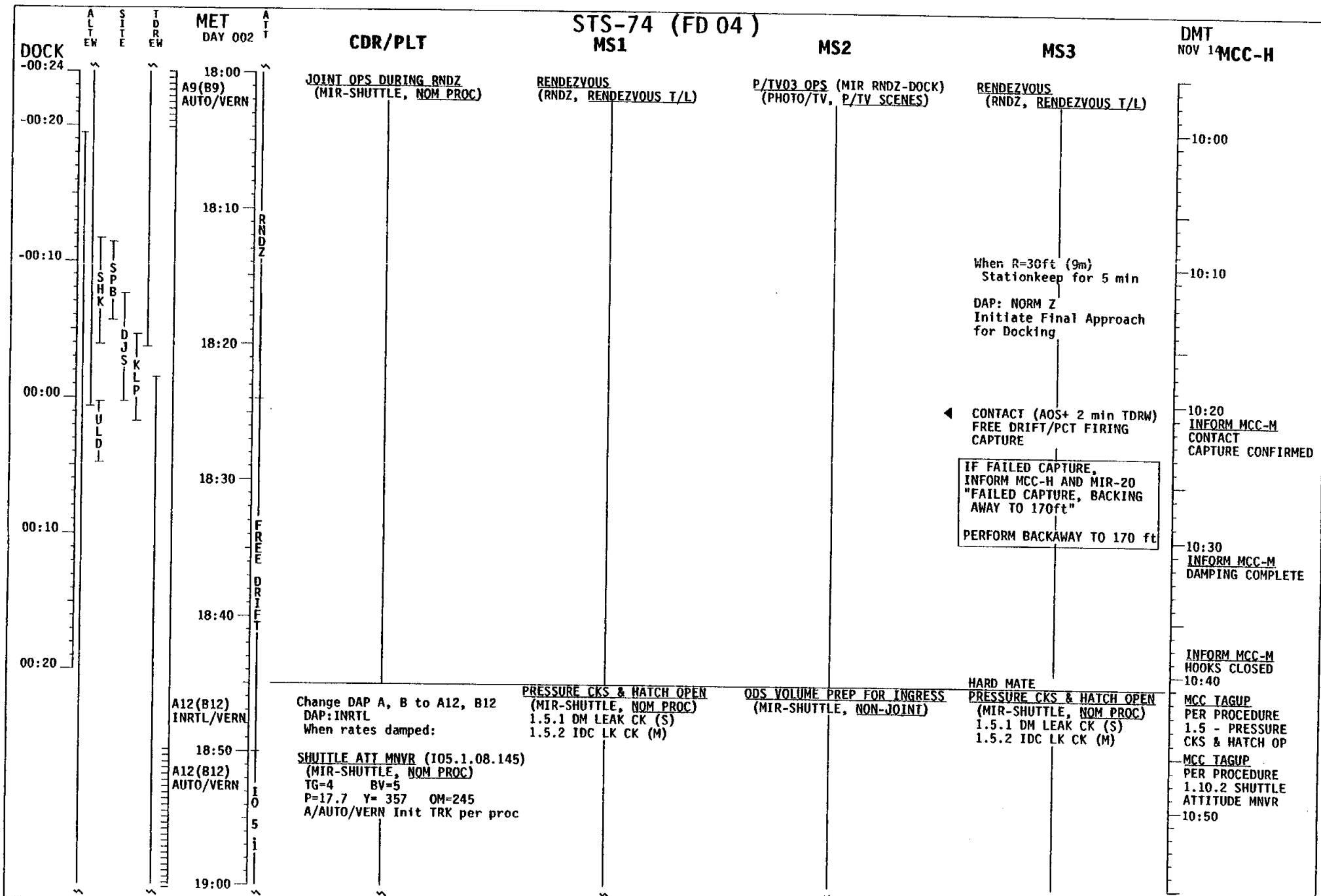


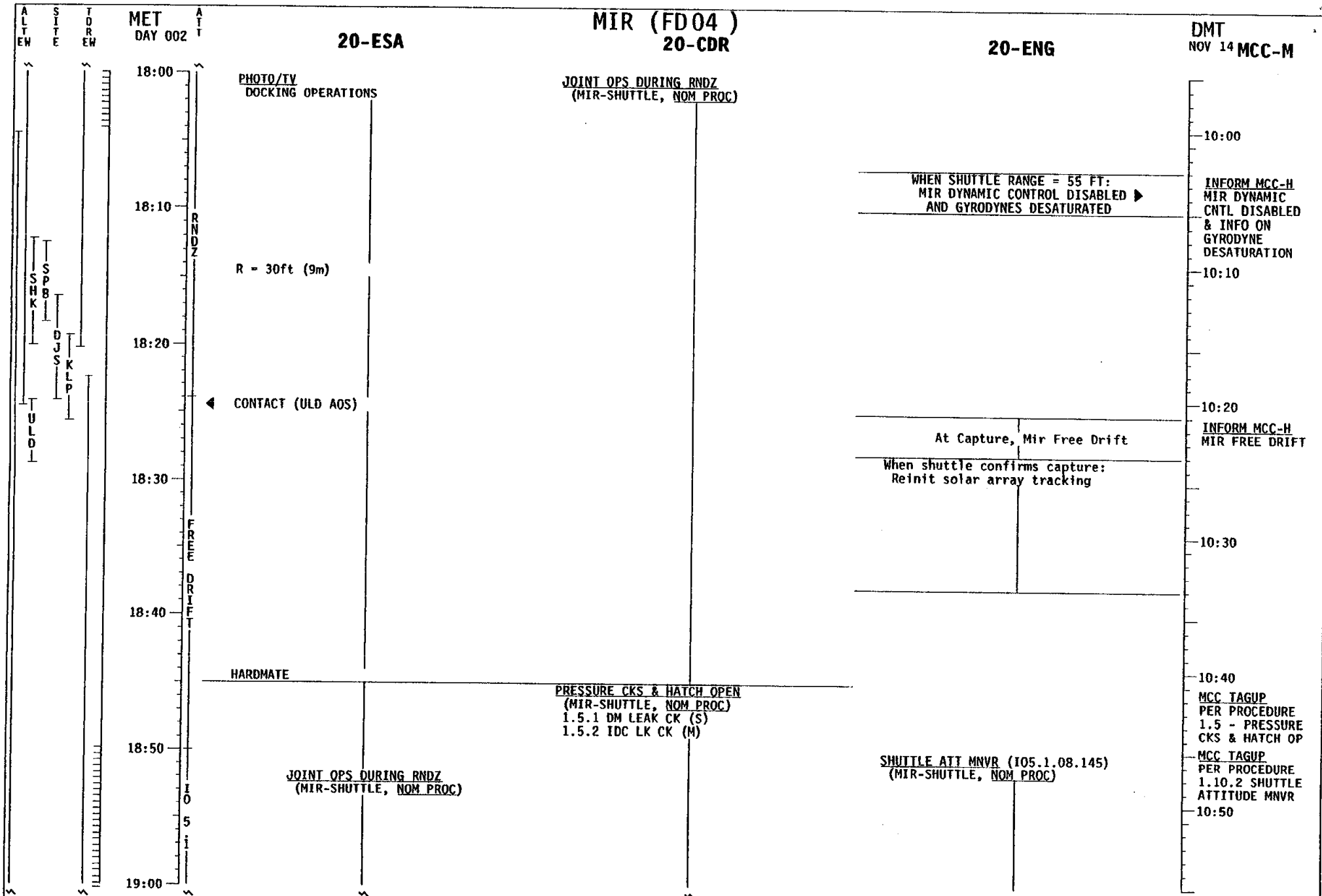


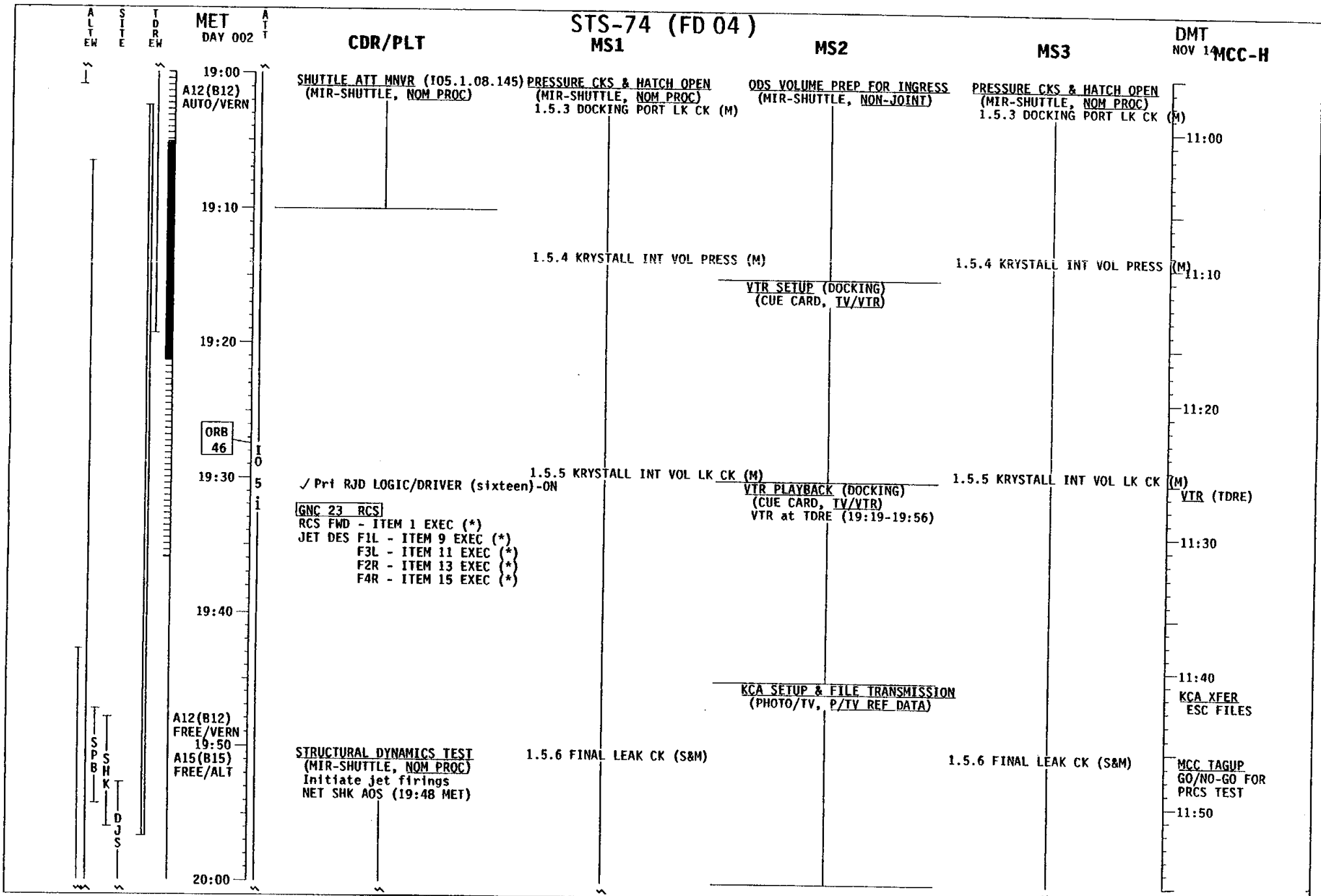


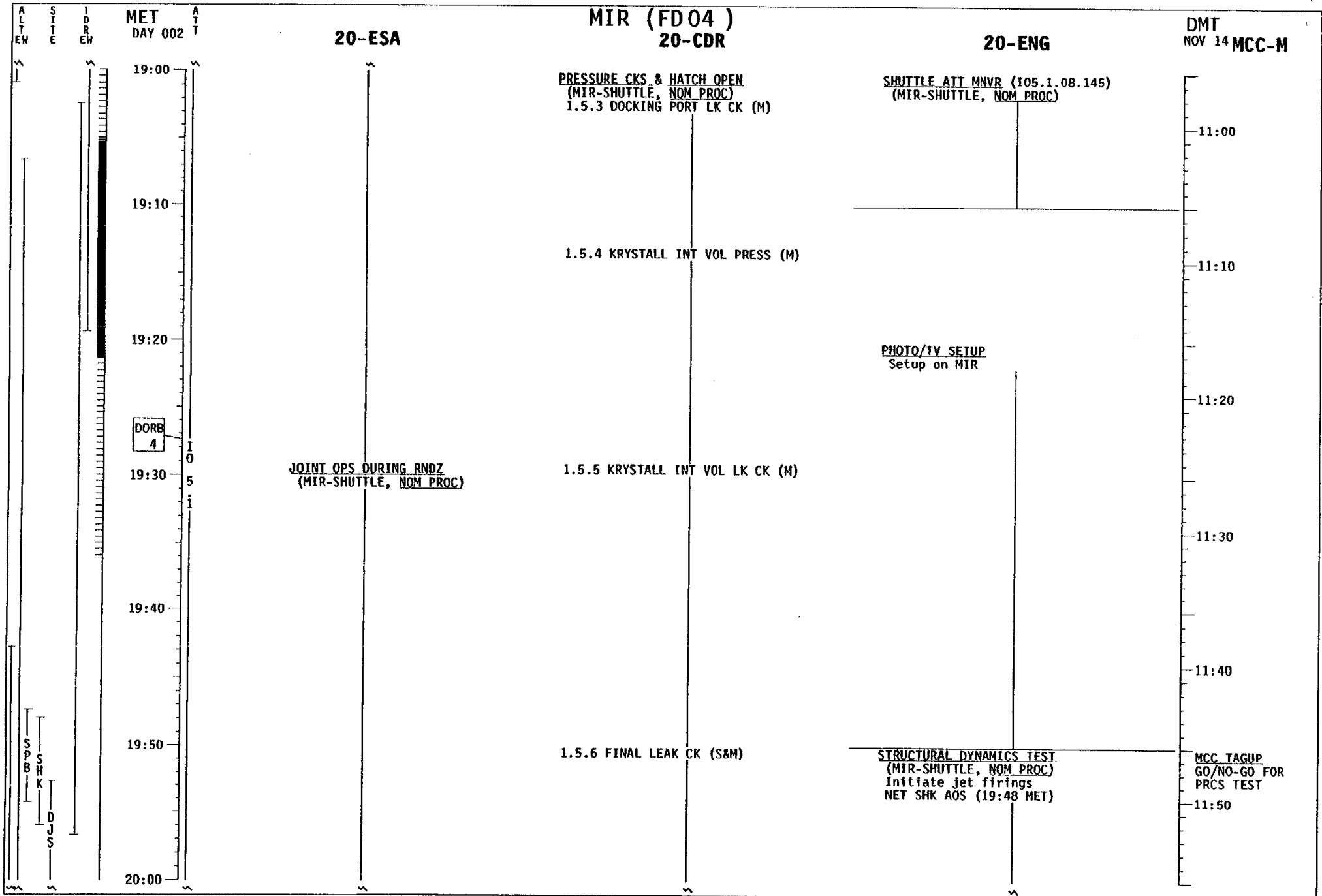


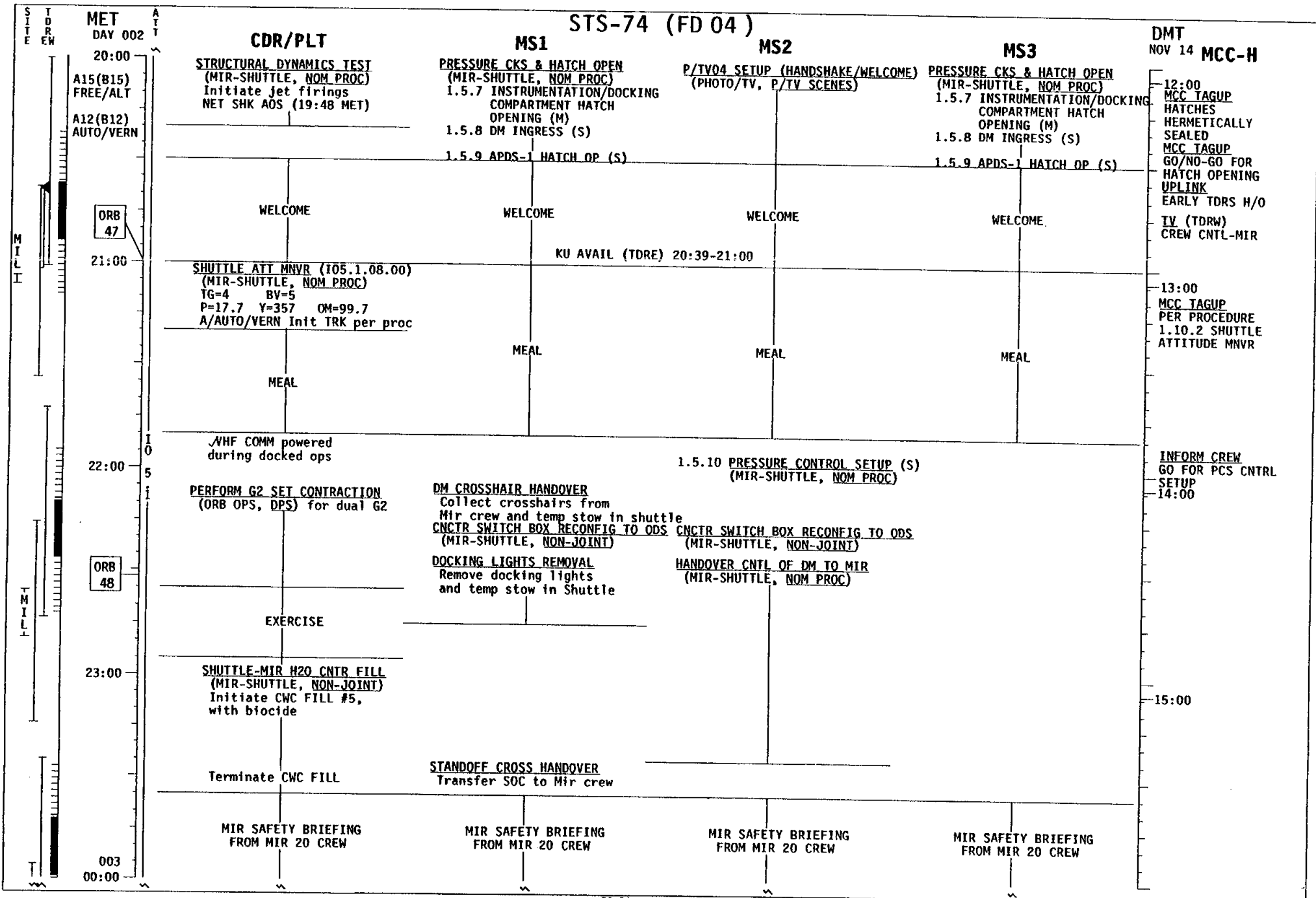


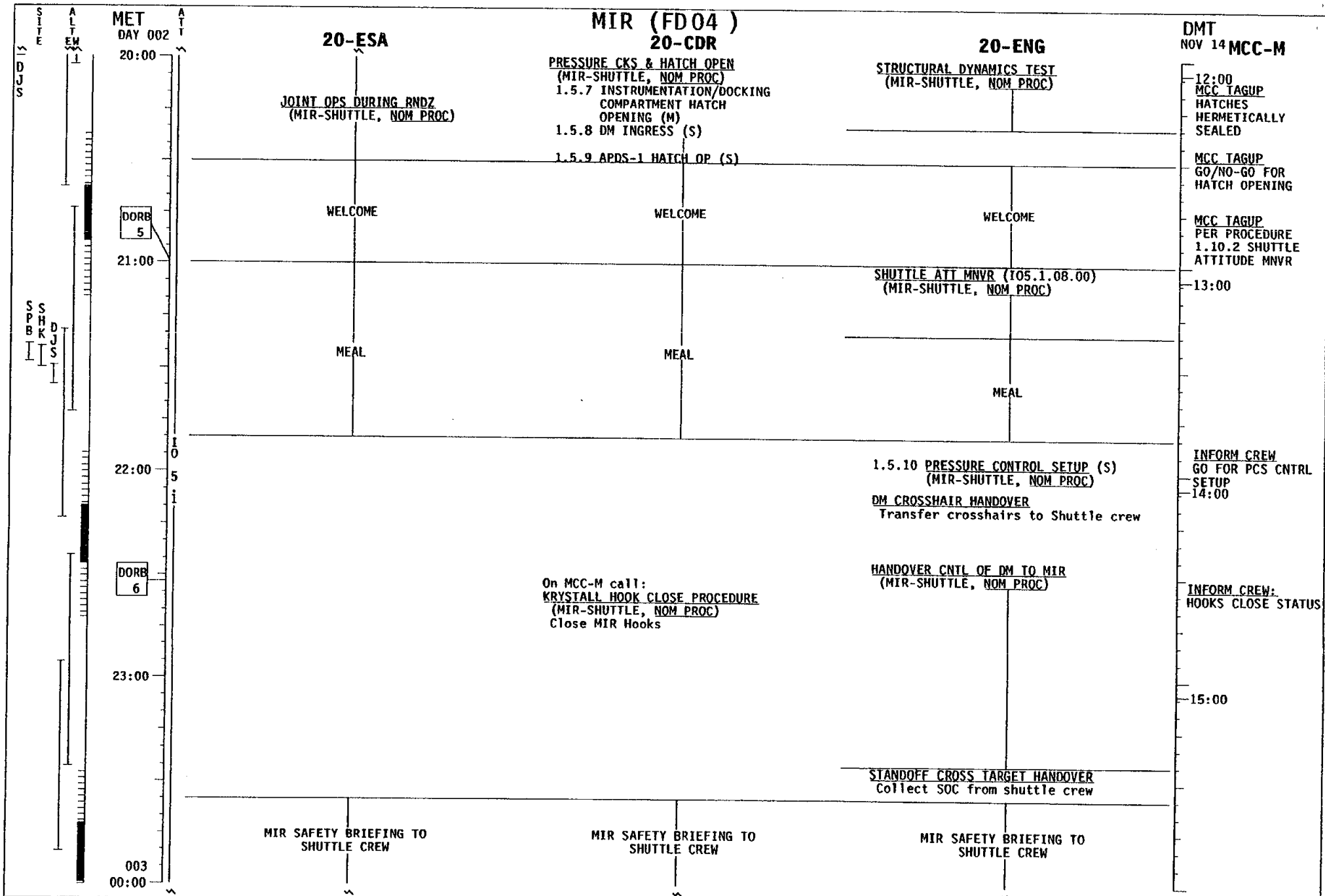


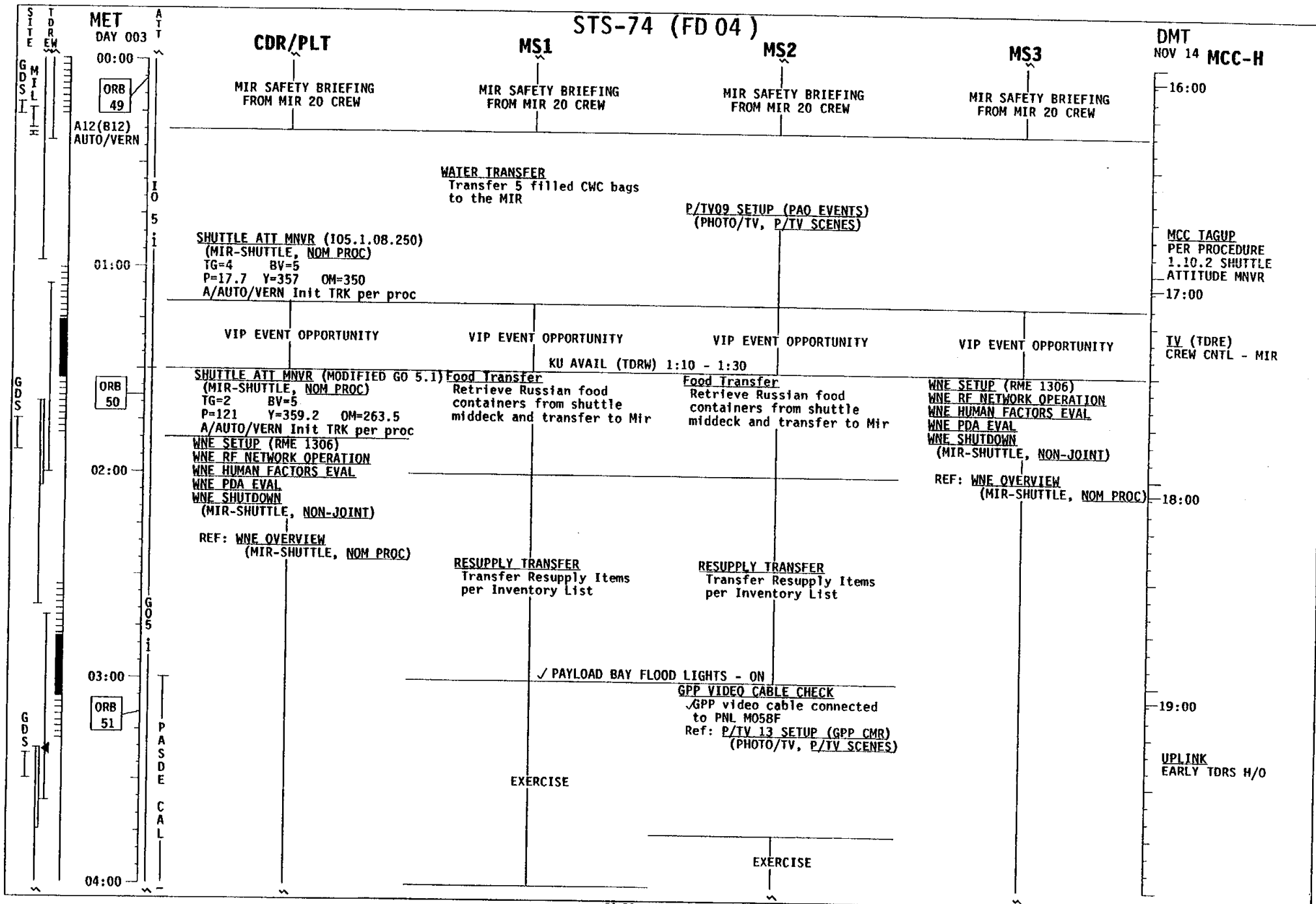


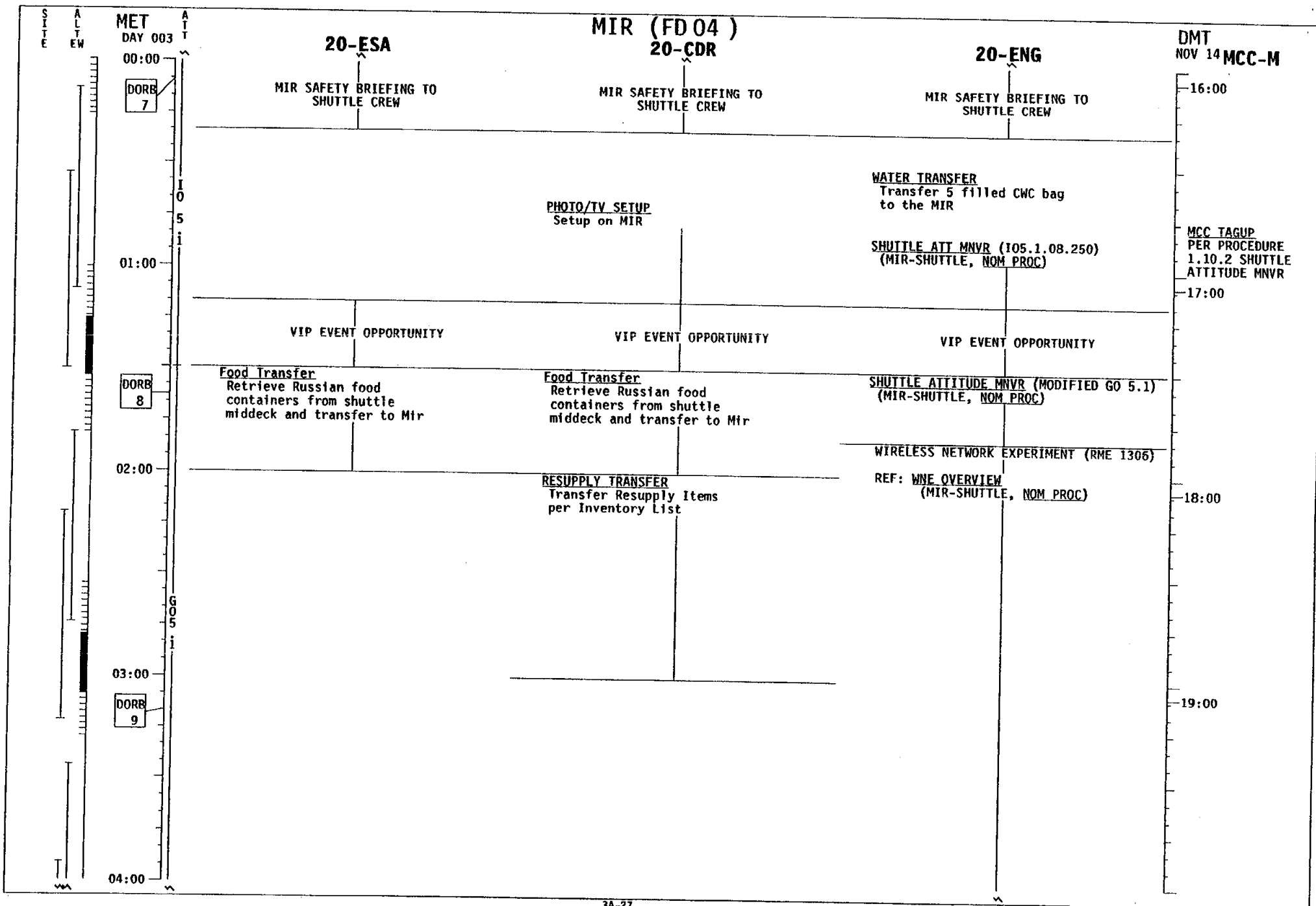


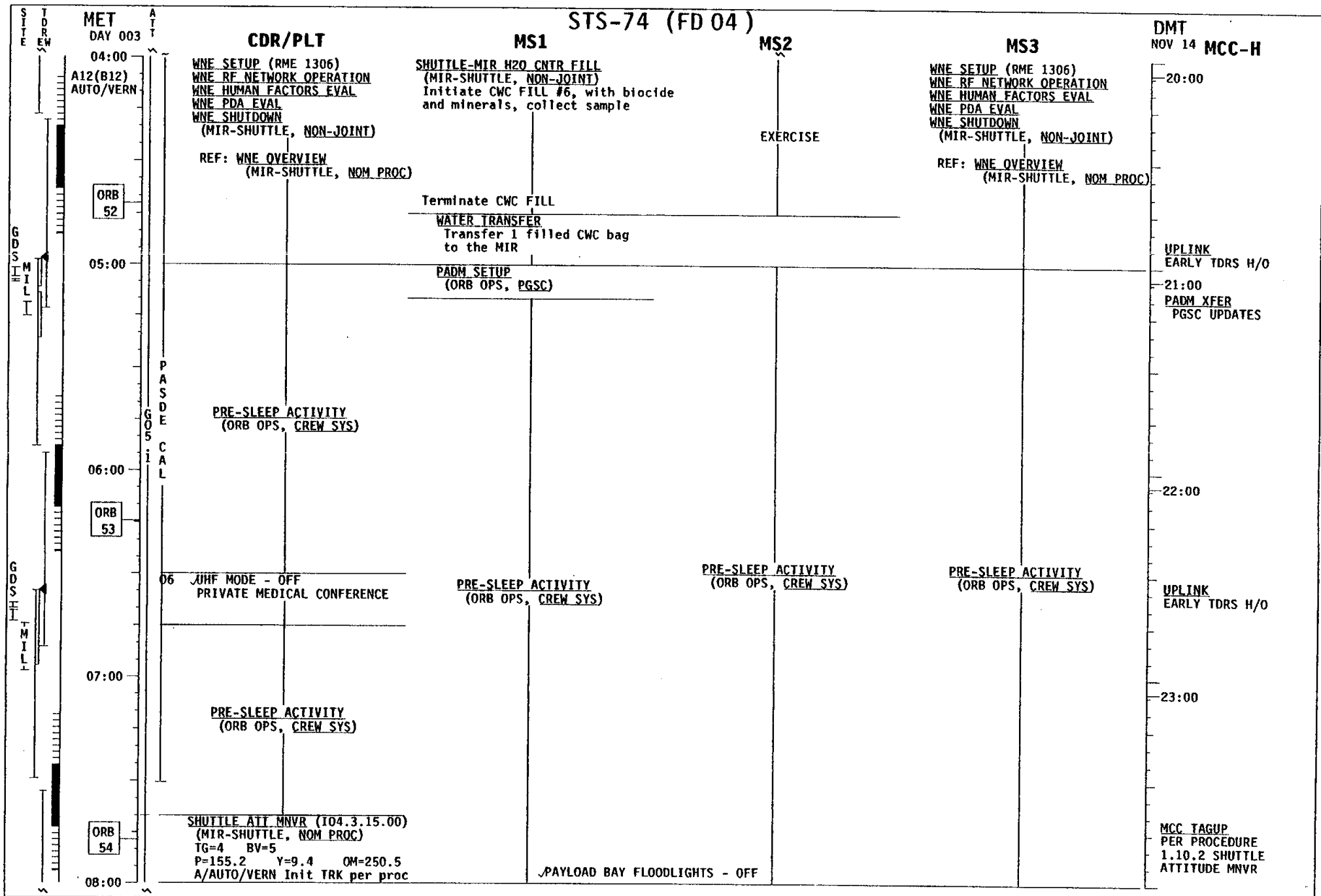


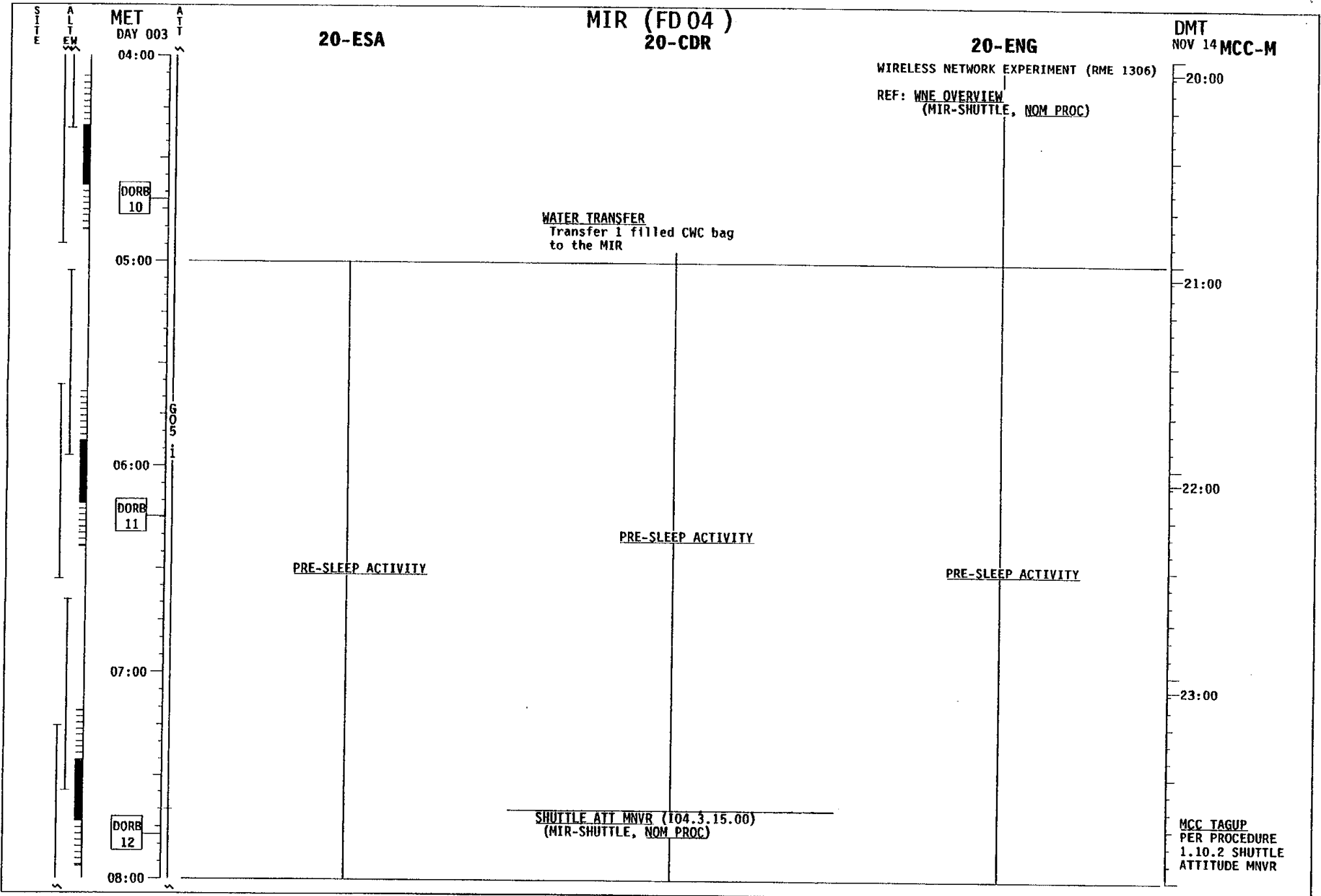


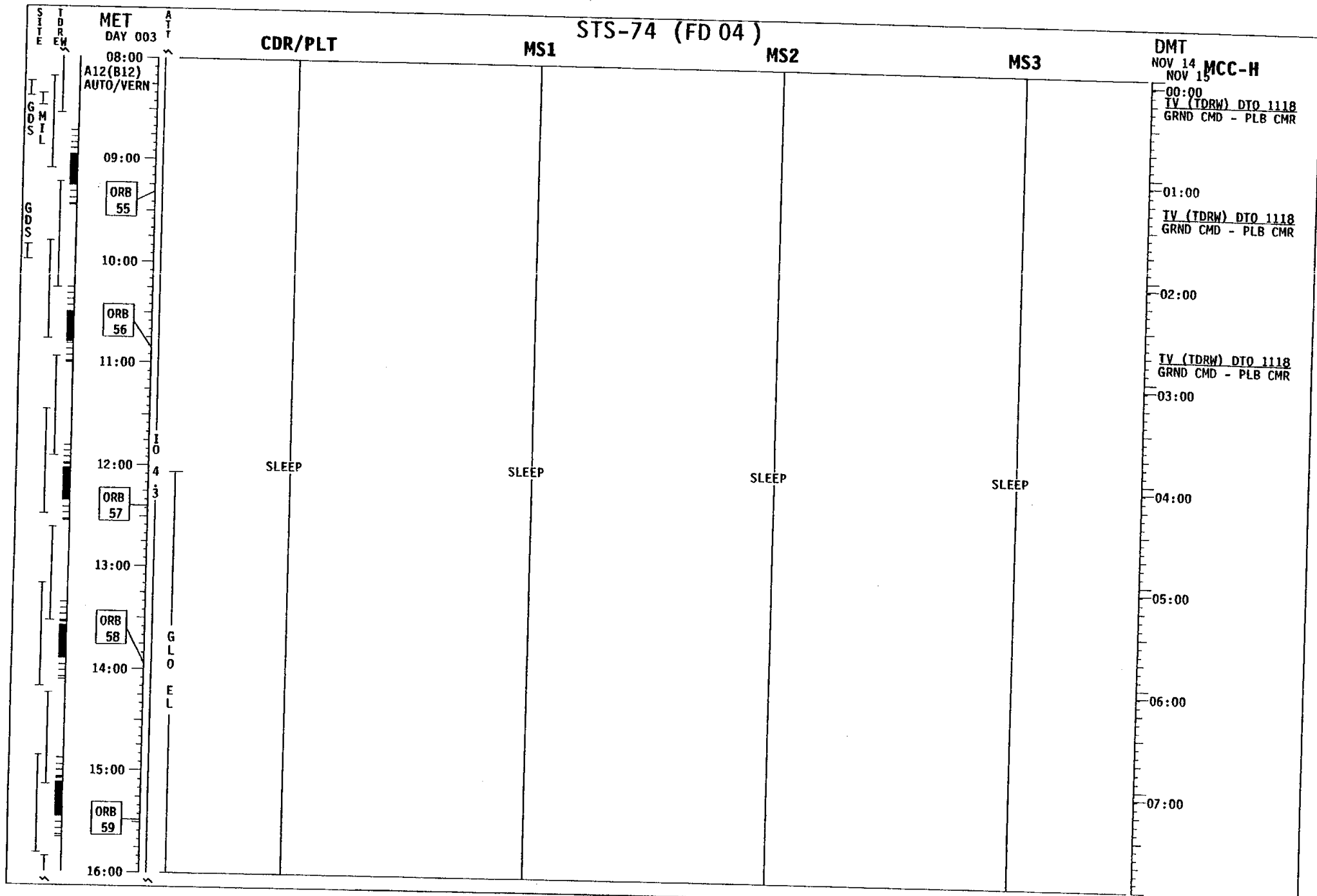


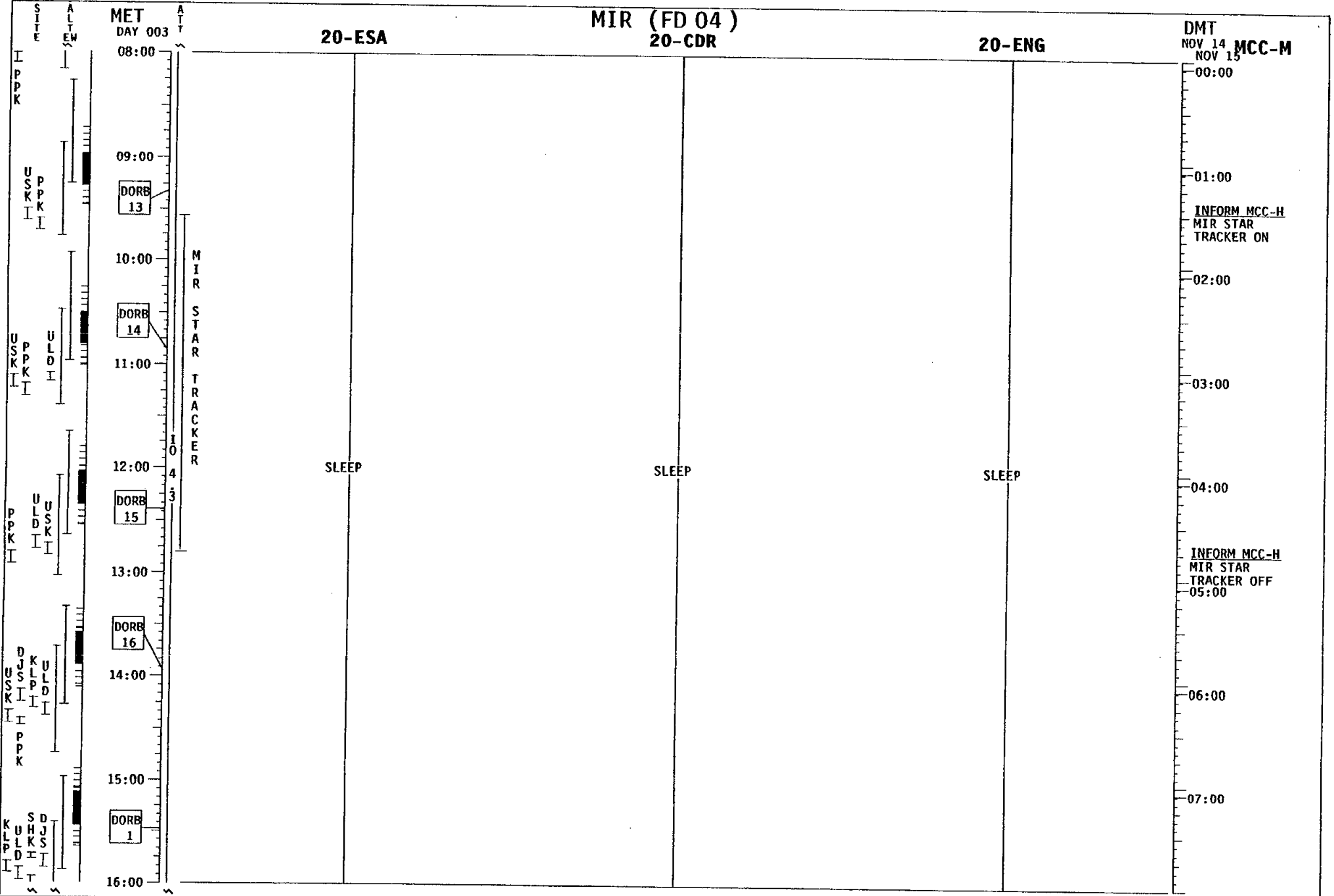


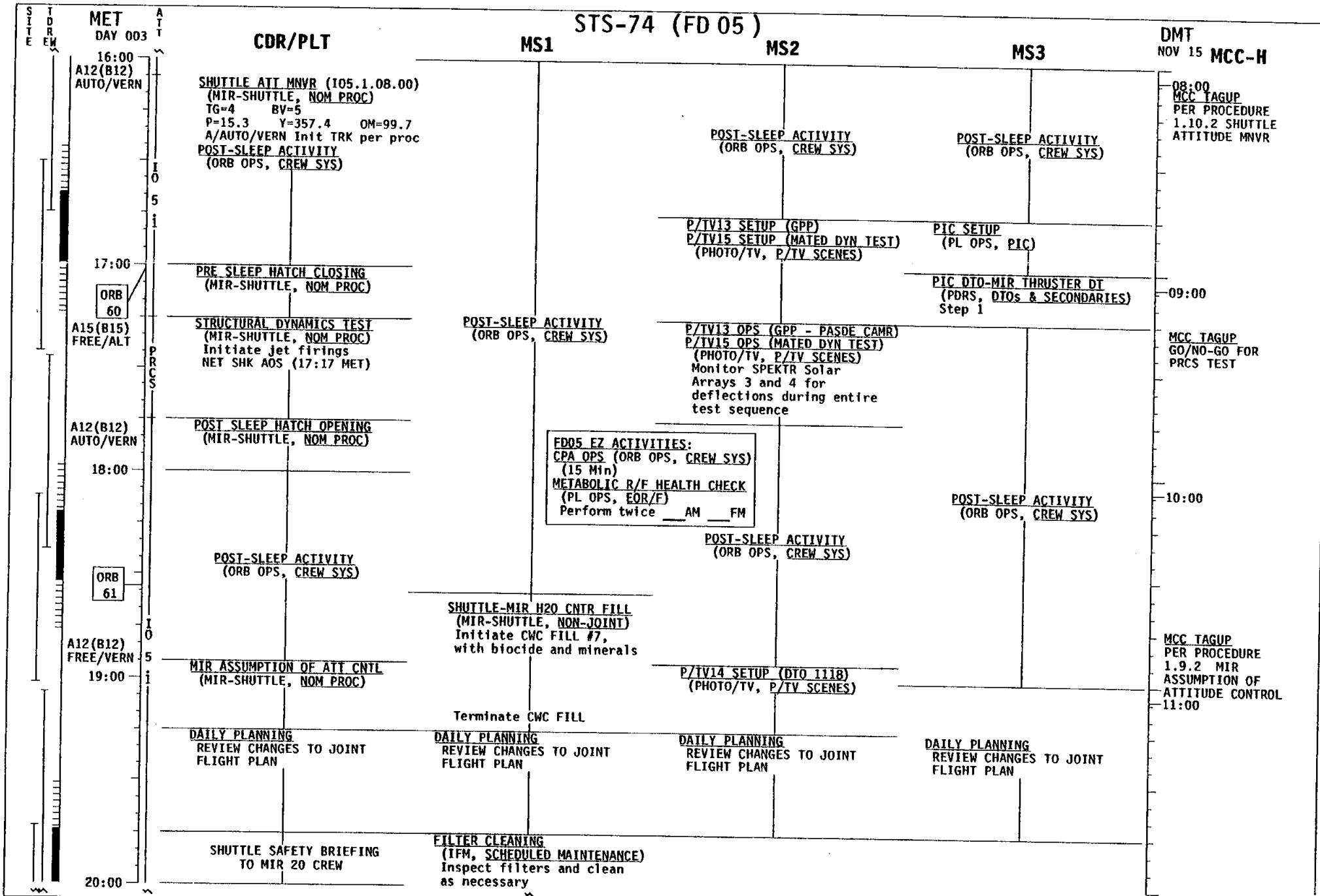


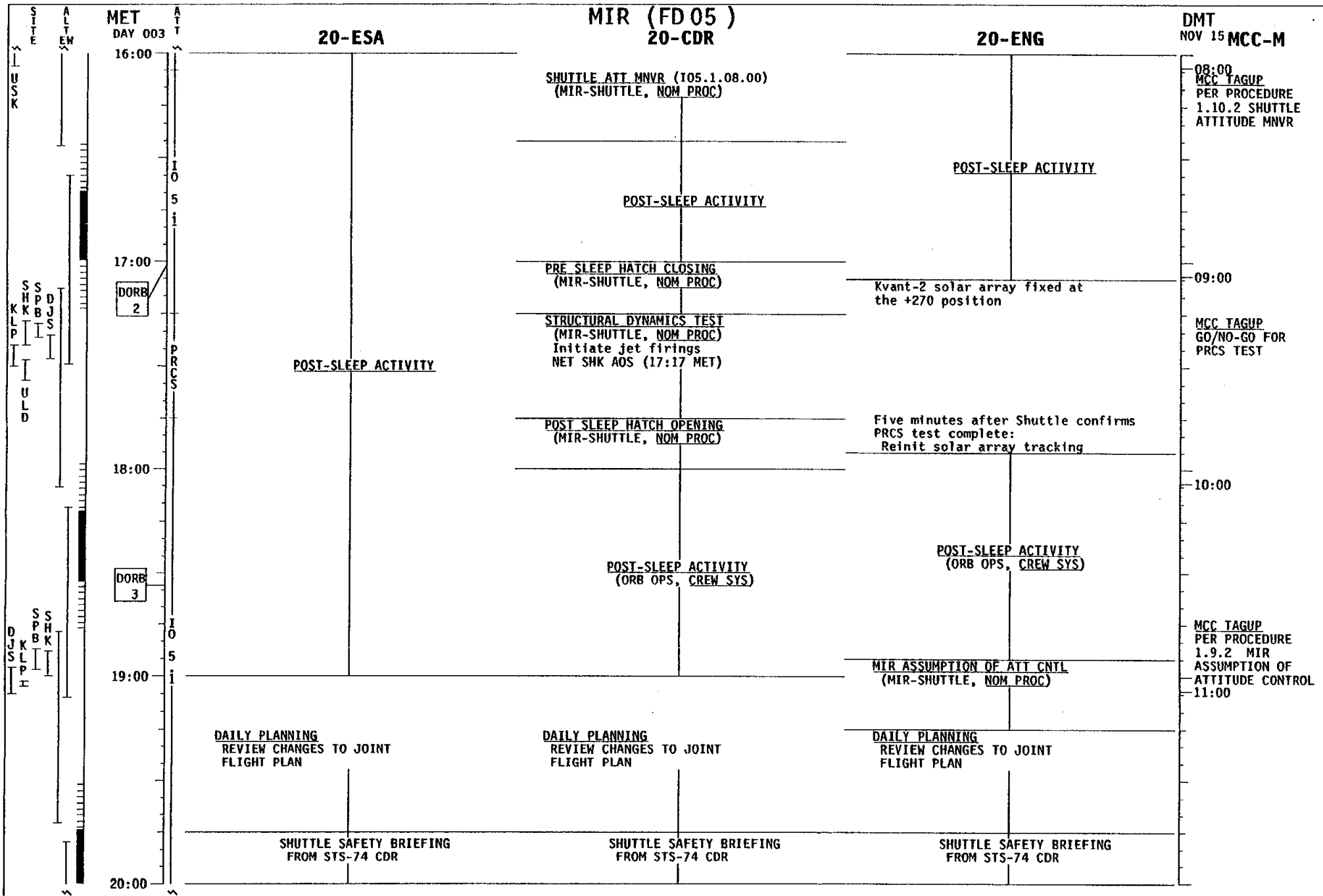


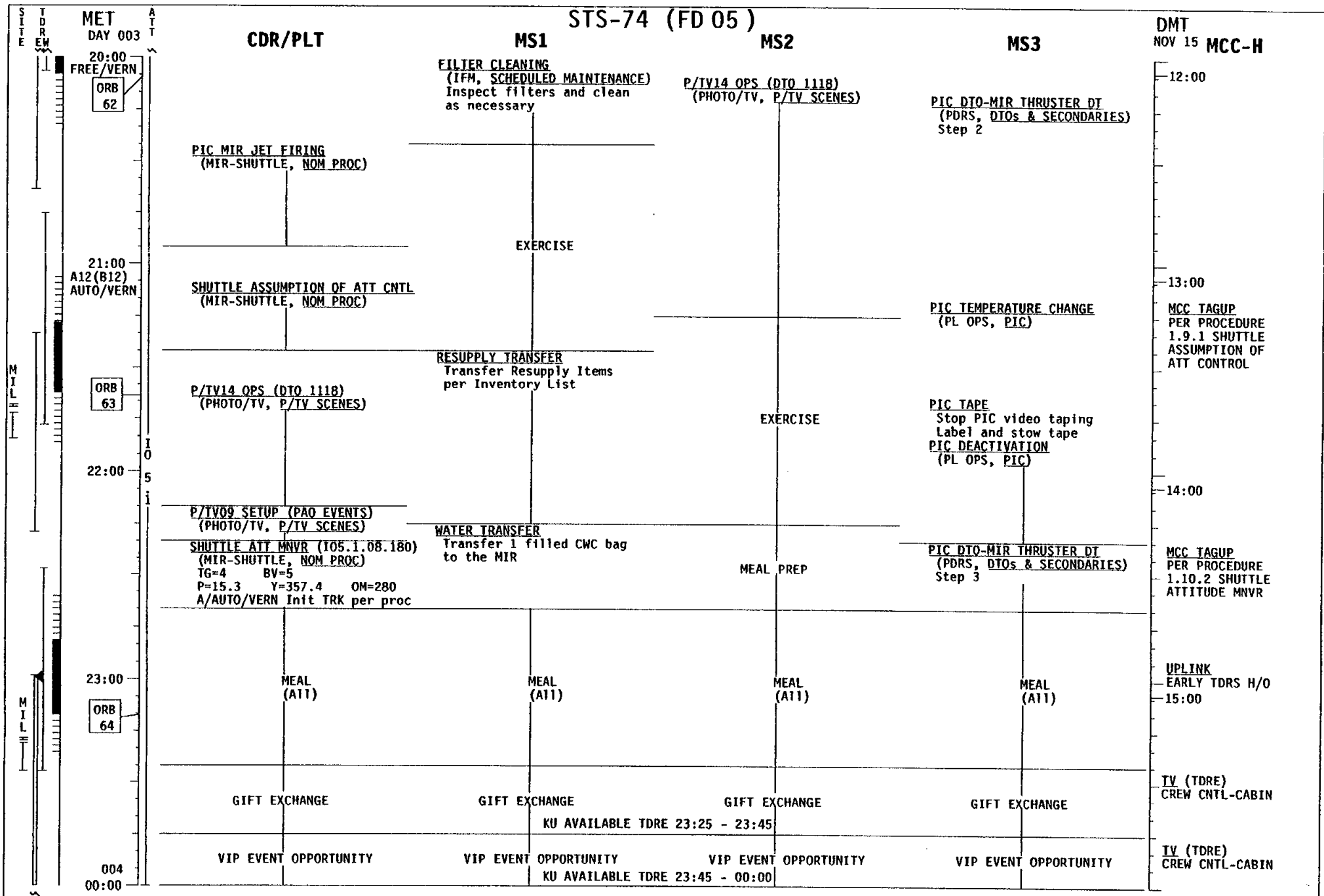


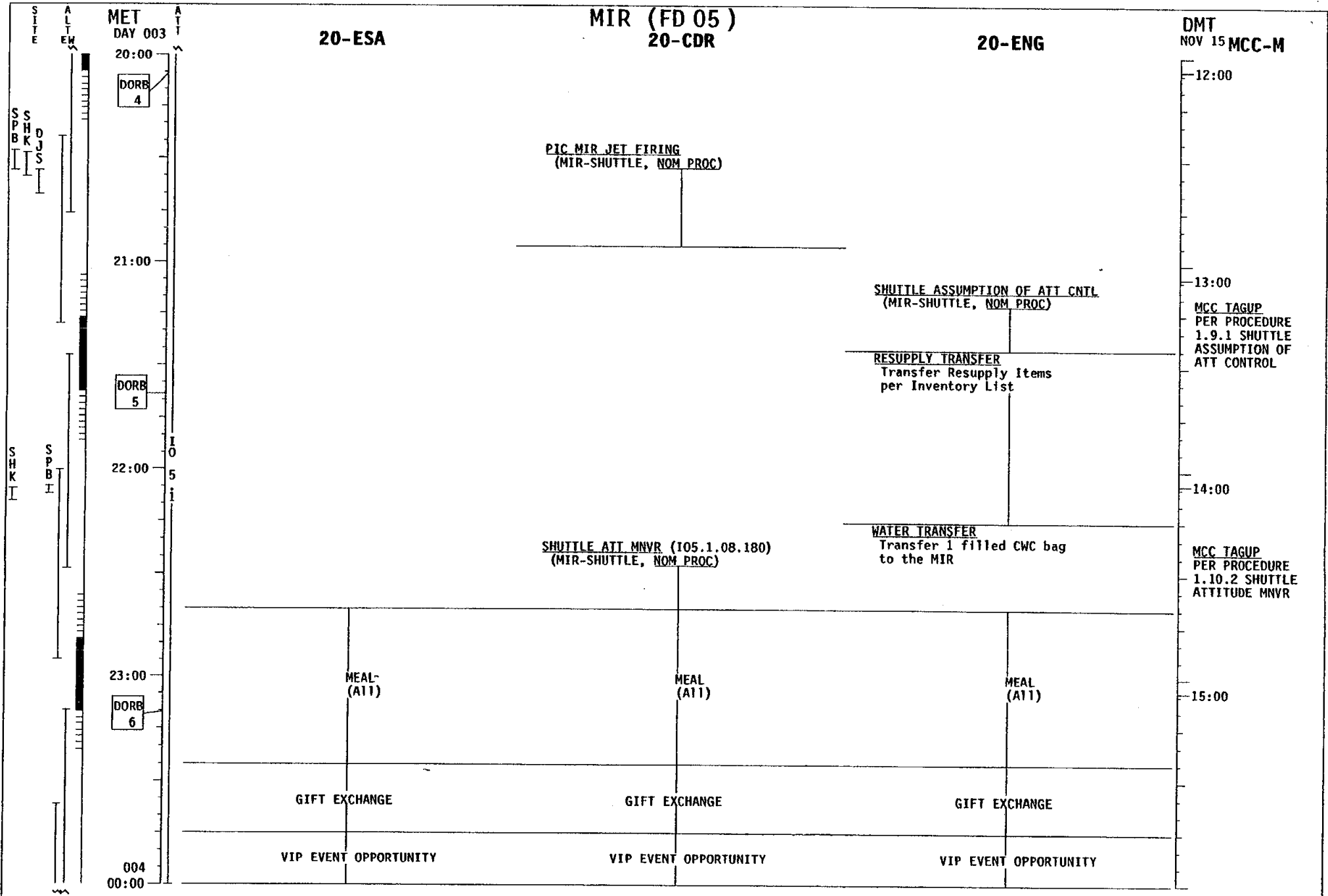


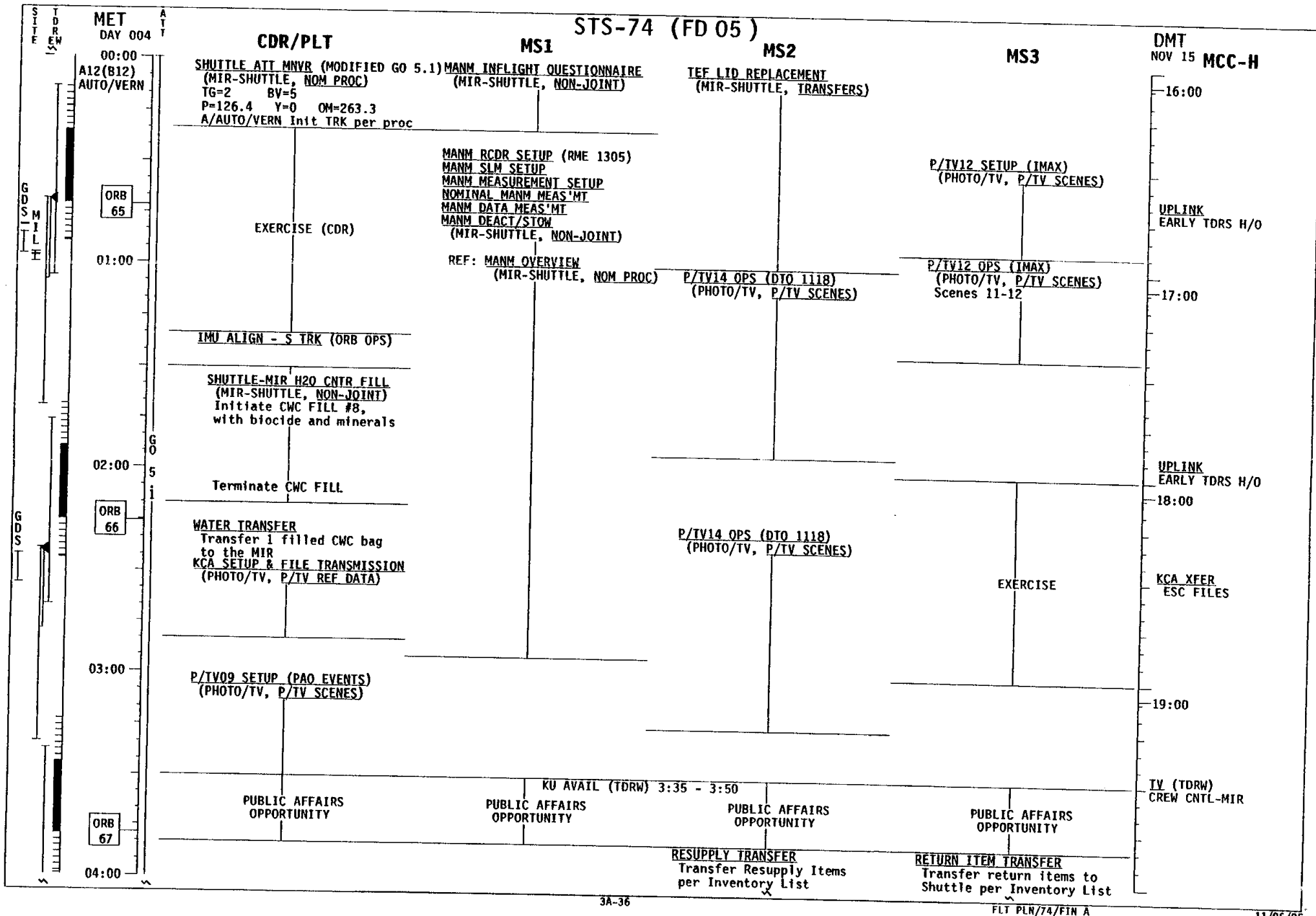












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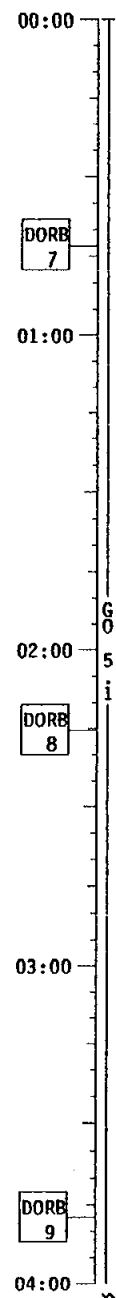
A
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20-ESA

MIR (FD 05)
20-CDR

20-ENG

DMT
NOV 15 MCC-M



TEF LID REPLACEMENT
(MIR-SHUTTLE, TRANSFERS)

SHUTTLE ATTITUDE MNVR (MODIFIED GO 5.1)
(MIR-SHUTTLE, NOM PROC)

MIR AUDIBLE NOISE MEASUREMENT EXPERIMENT
(RME 1305)

REF: MANN OVERVIEW
(MIR-SHUTTLE, NOM PROC)

WATER TRANSFER
Transfer 1 filled CWC bag
to the MIR

PHOTO/TV SETUP
Setup on MIR

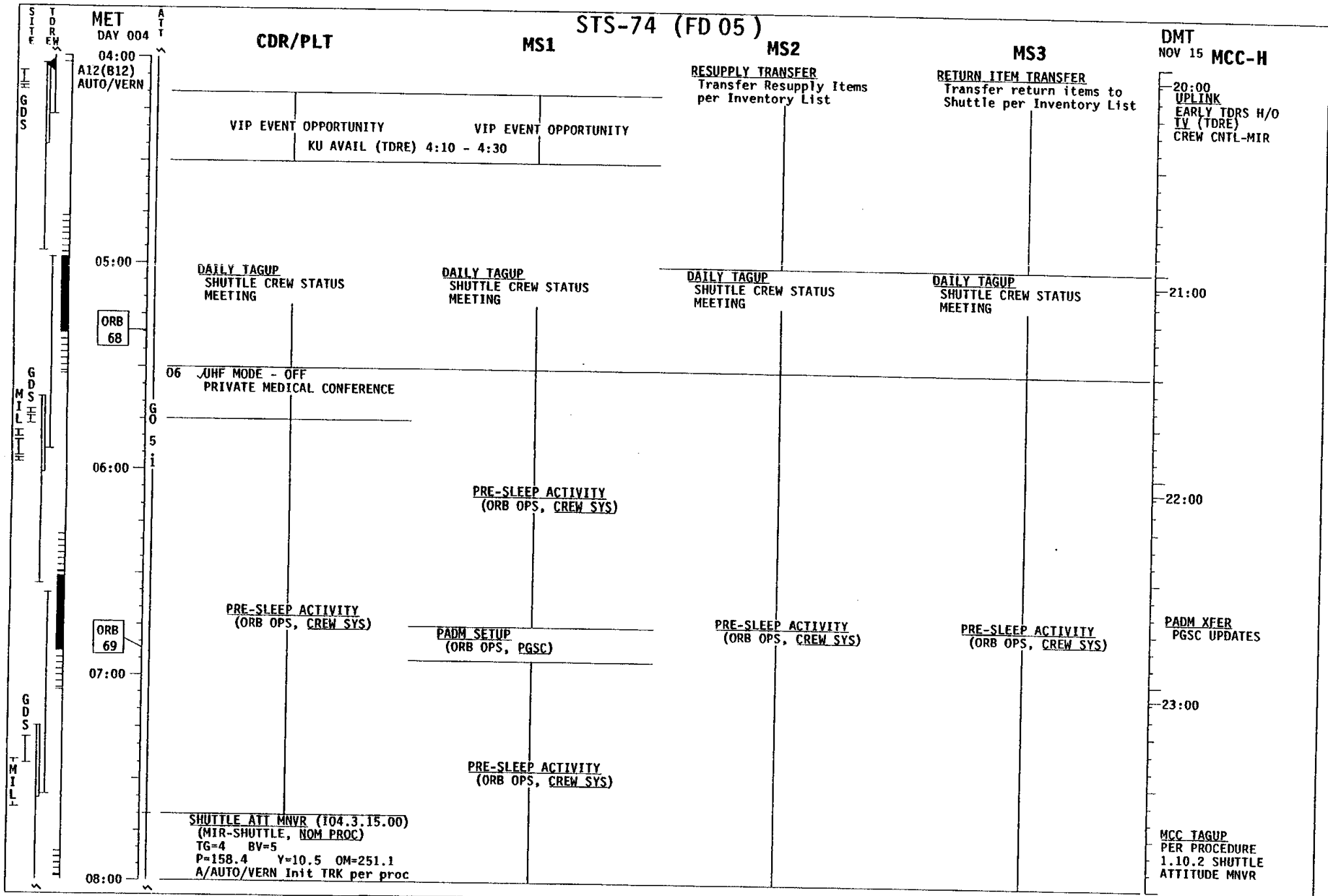
PUBLIC AFFAIRS
OPPORTUNITY

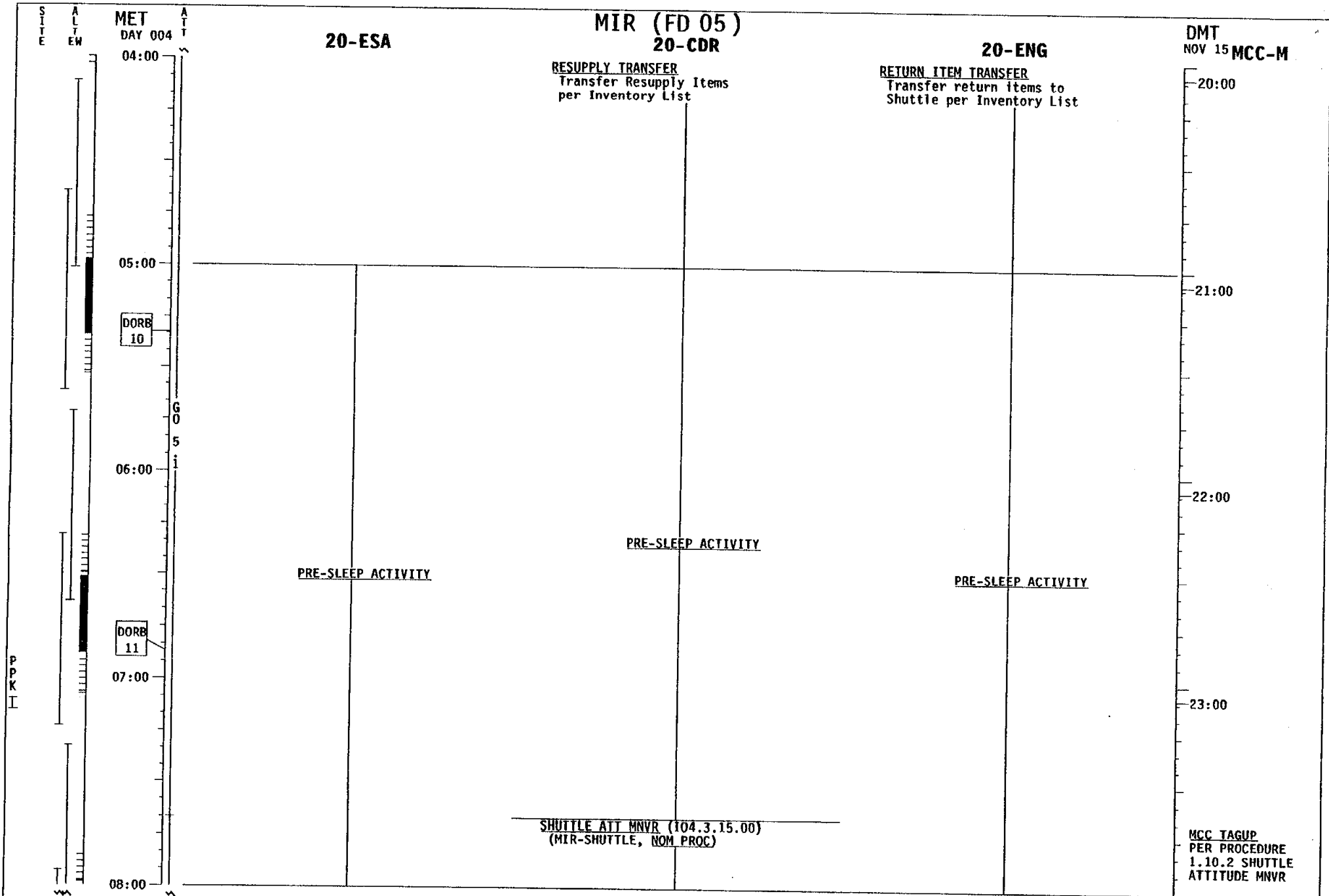
PUBLIC AFFAIRS
OPPORTUNITY

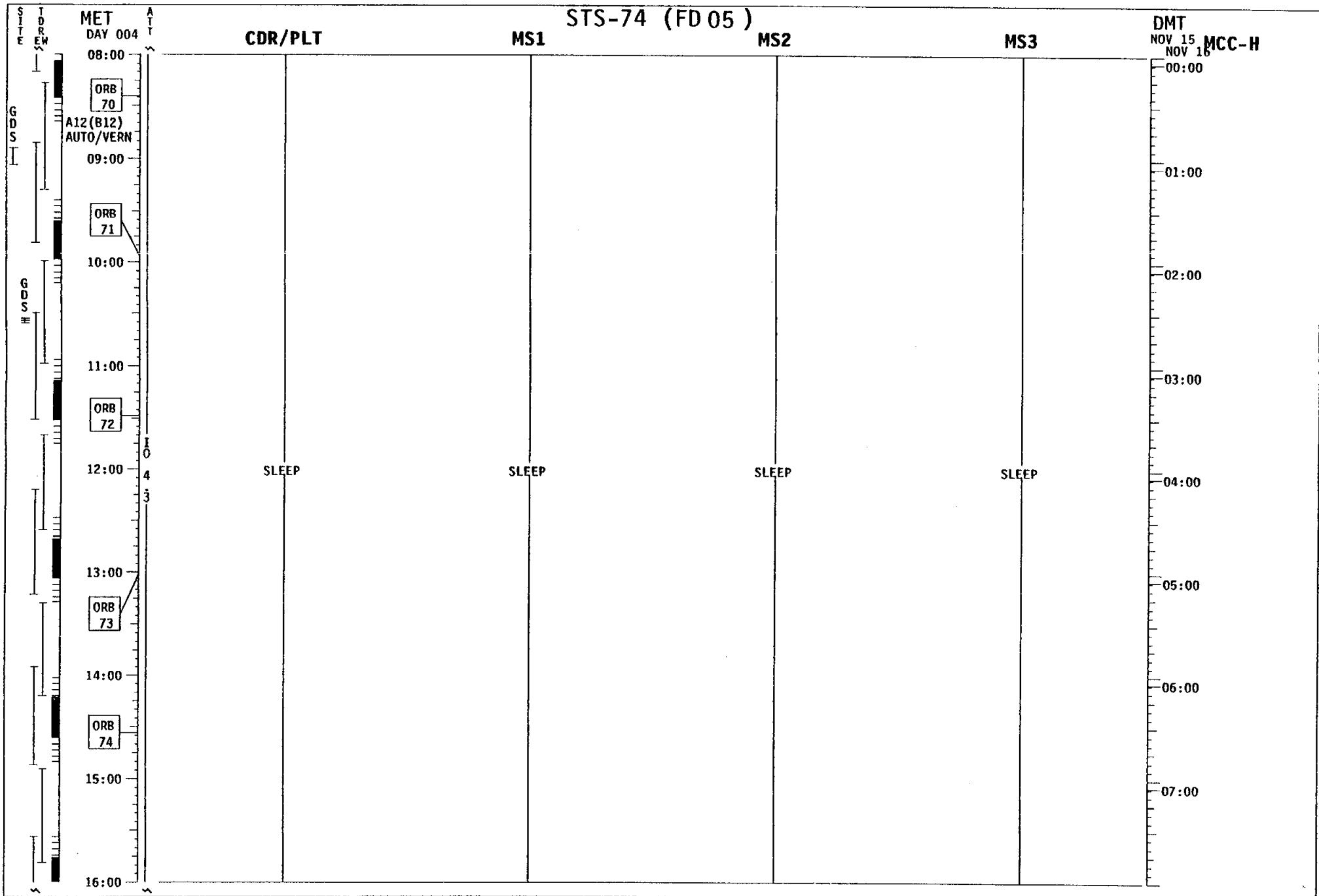
PUBLIC AFFAIRS
OPPORTUNITY

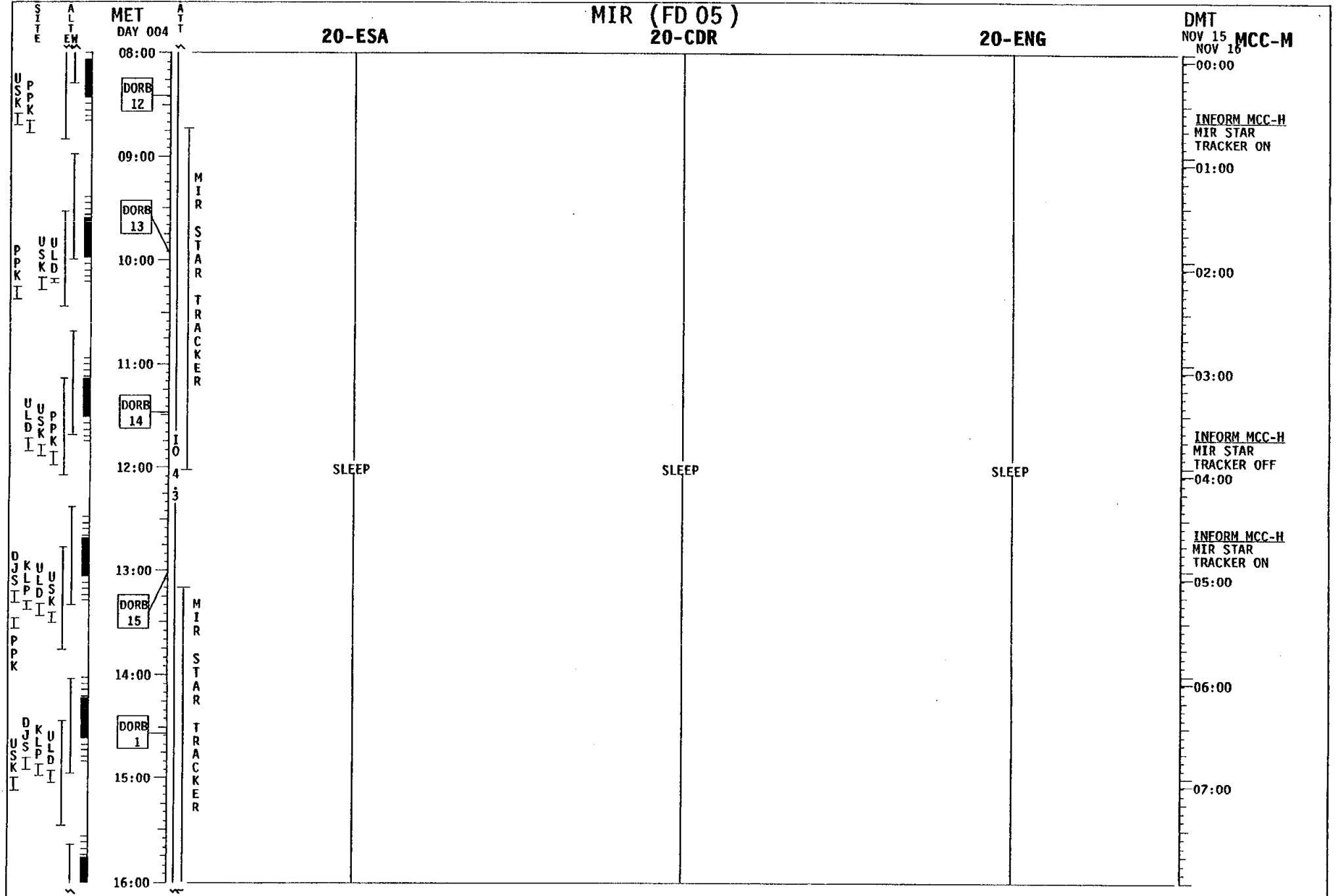
RESUPPLY TRANSFER
Transfer Resupply Items
per Inventory List

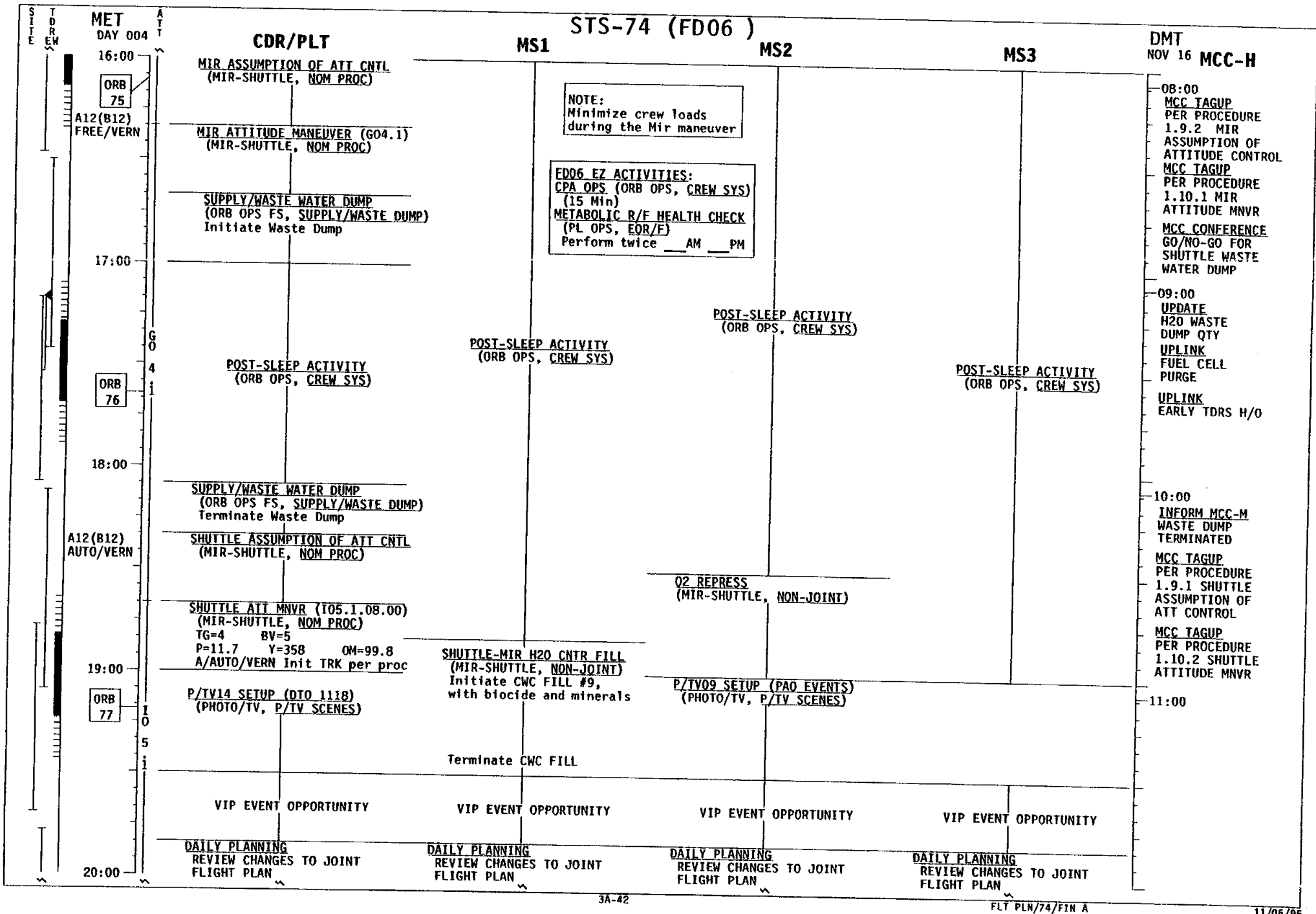
RETURN ITEM TRANSFER
Transfer return items to
Shuttle per Inventory List

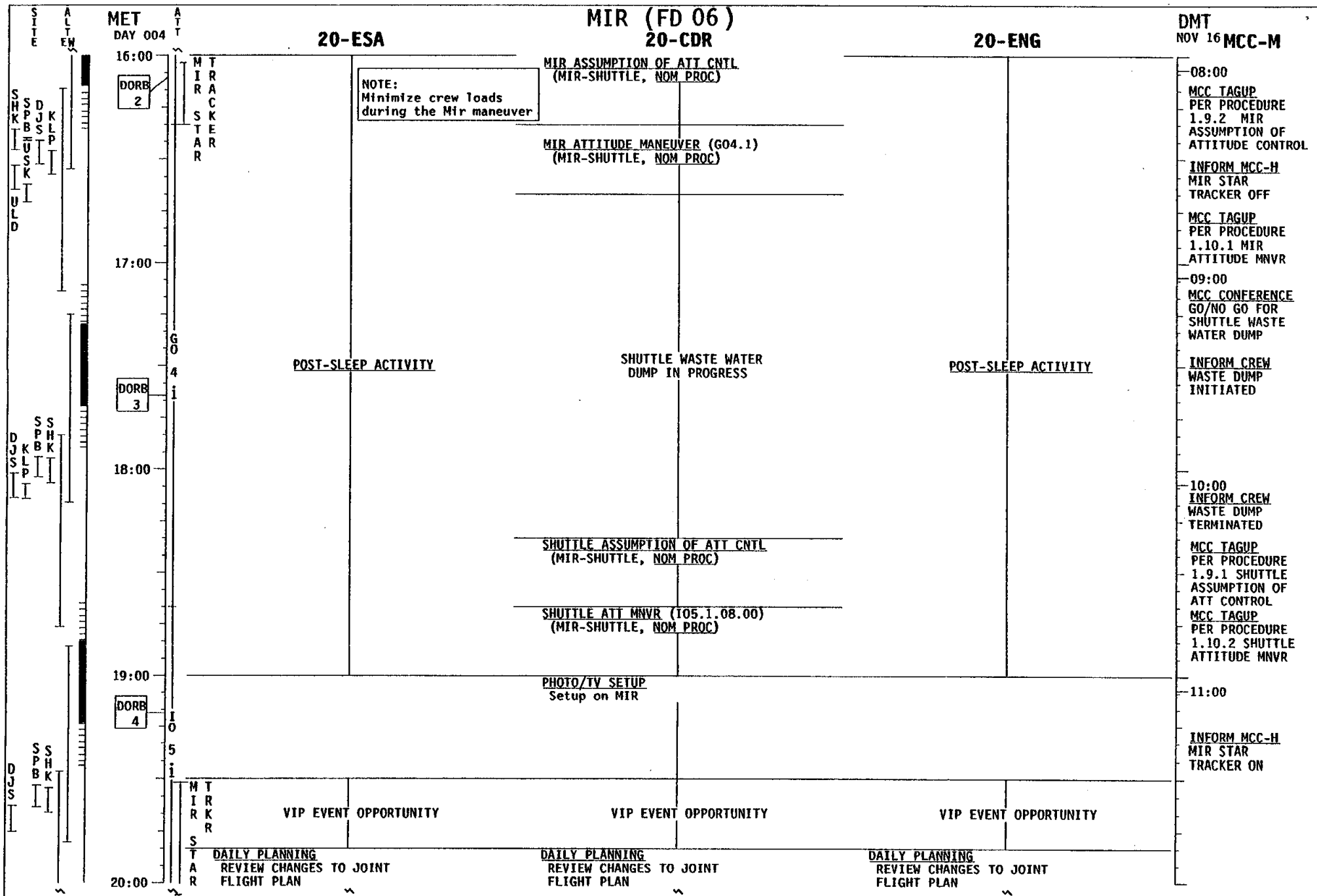


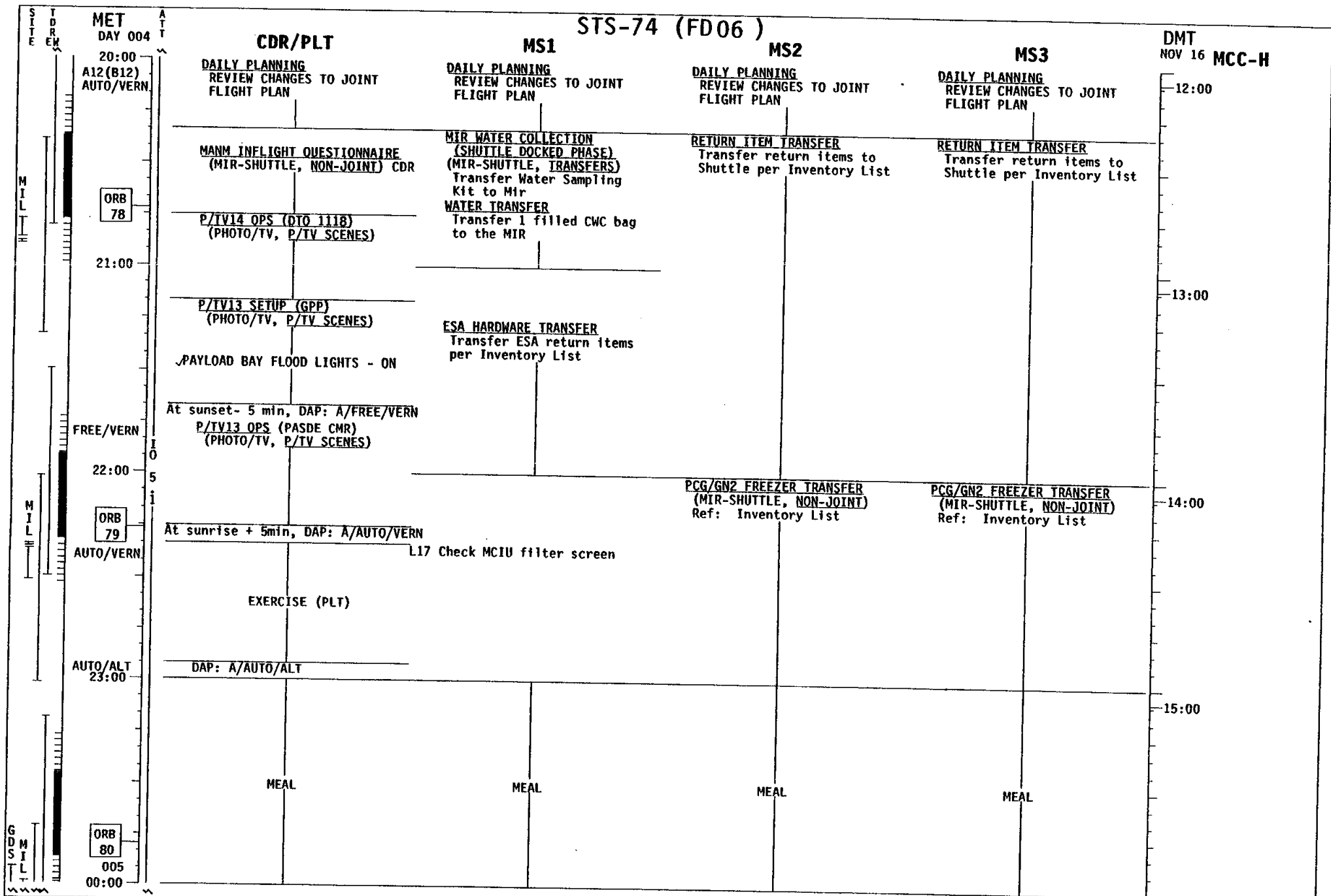


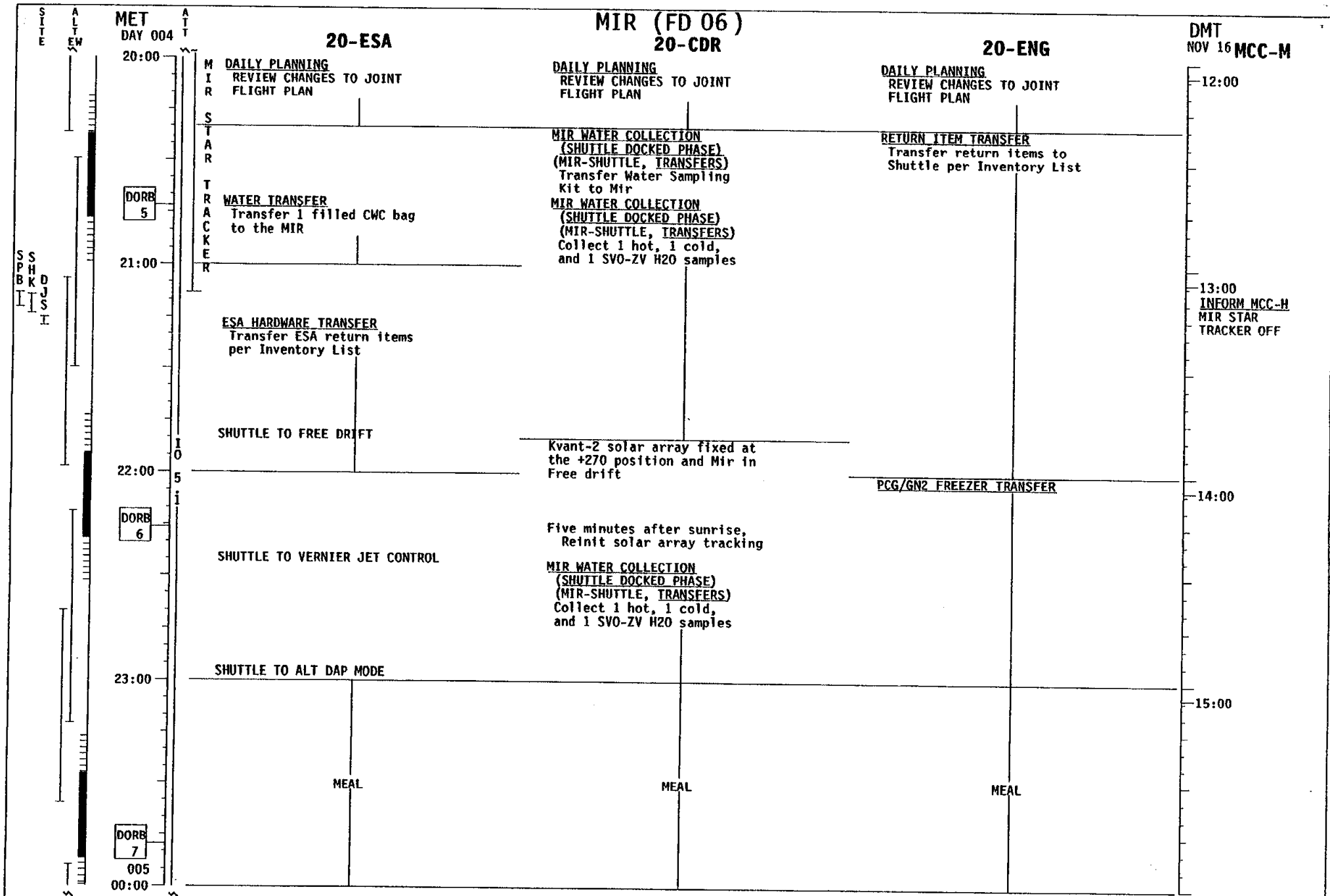


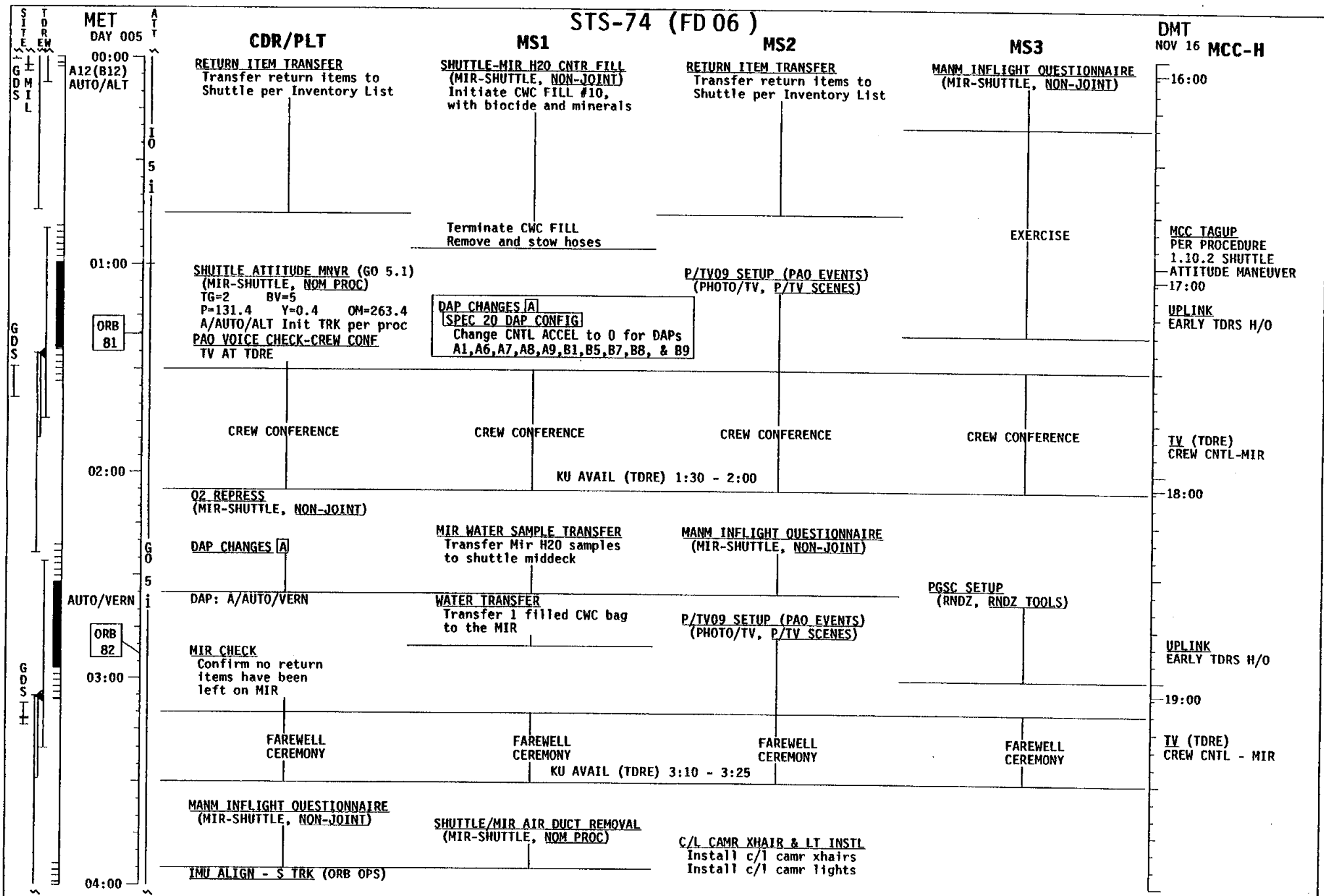


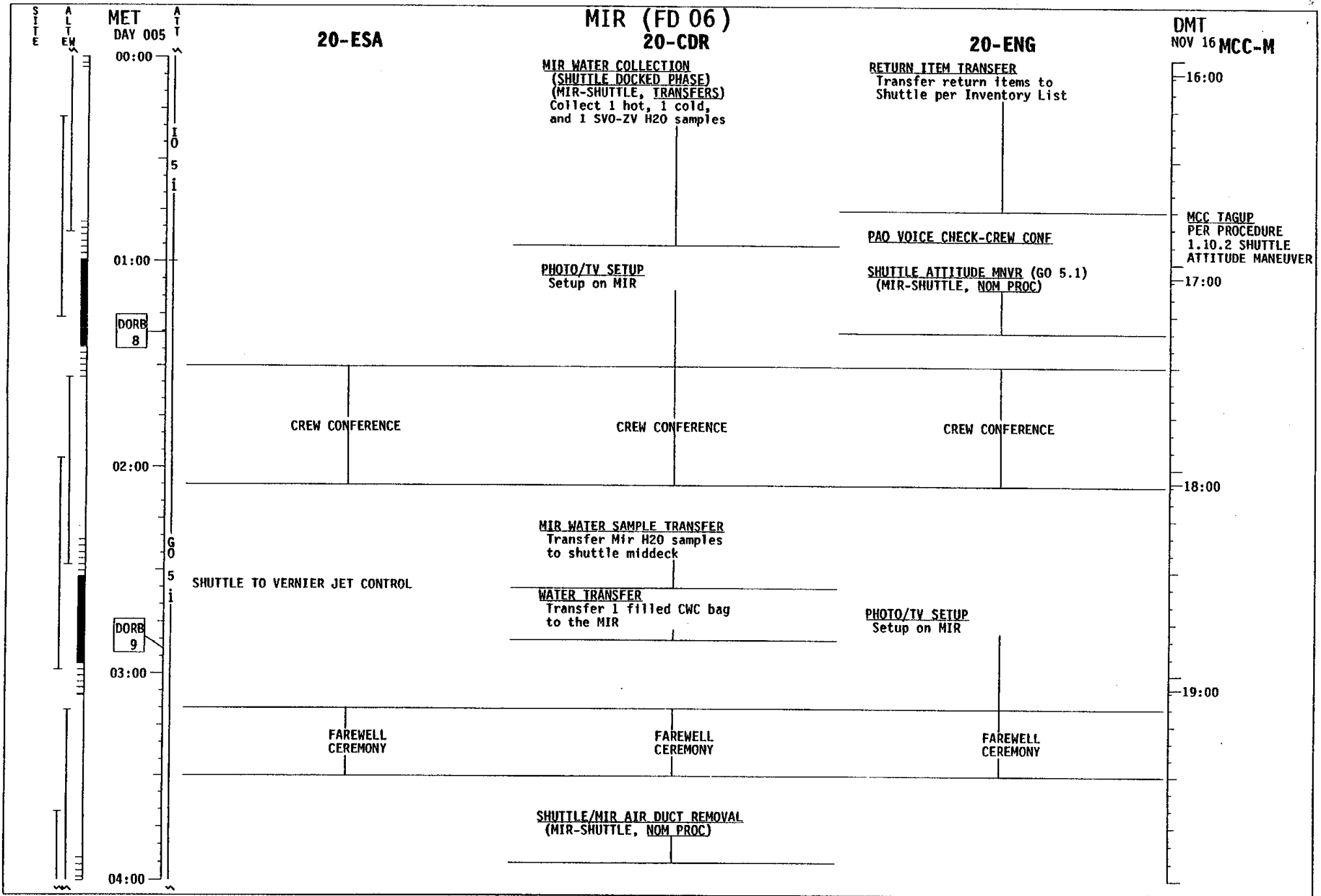


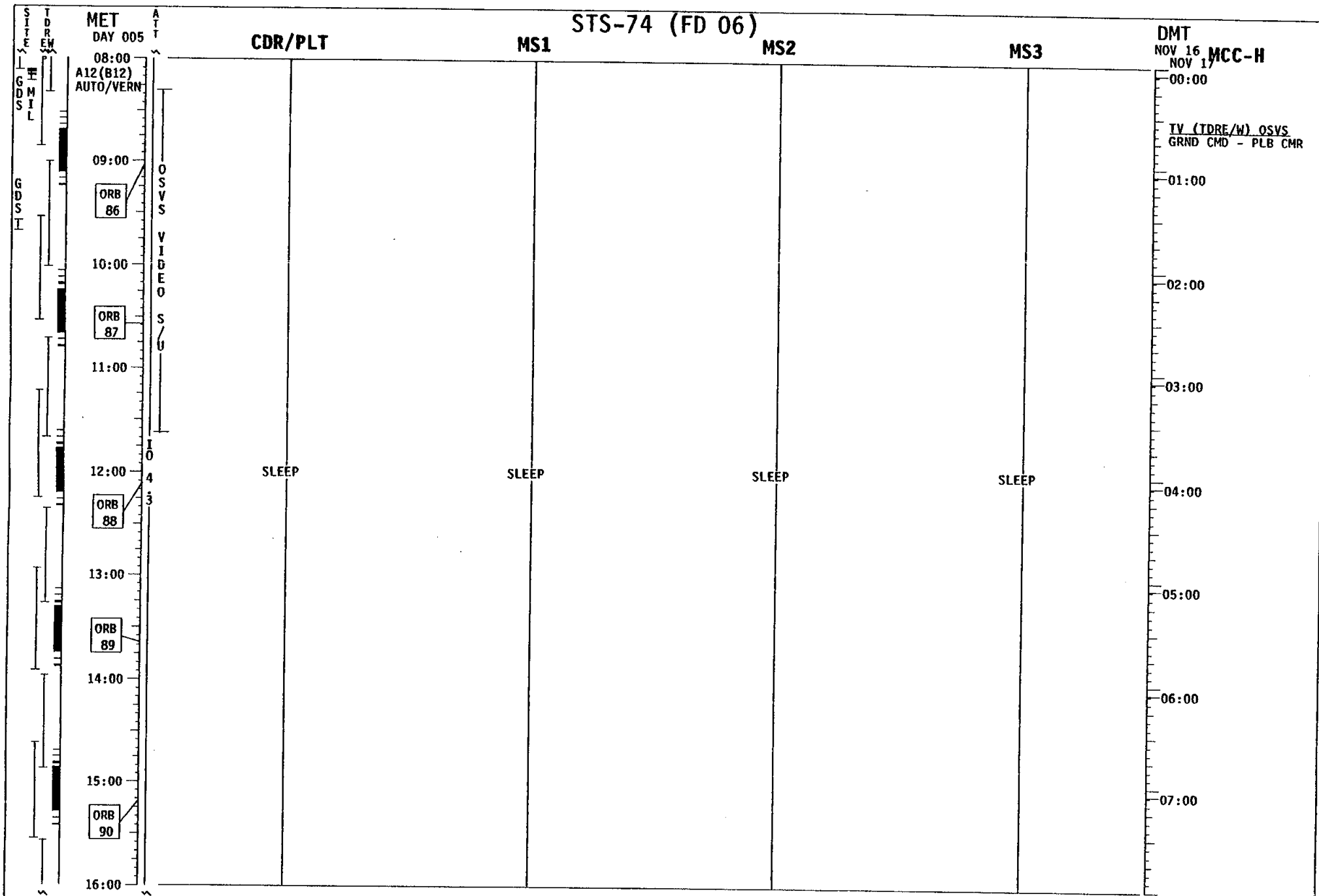


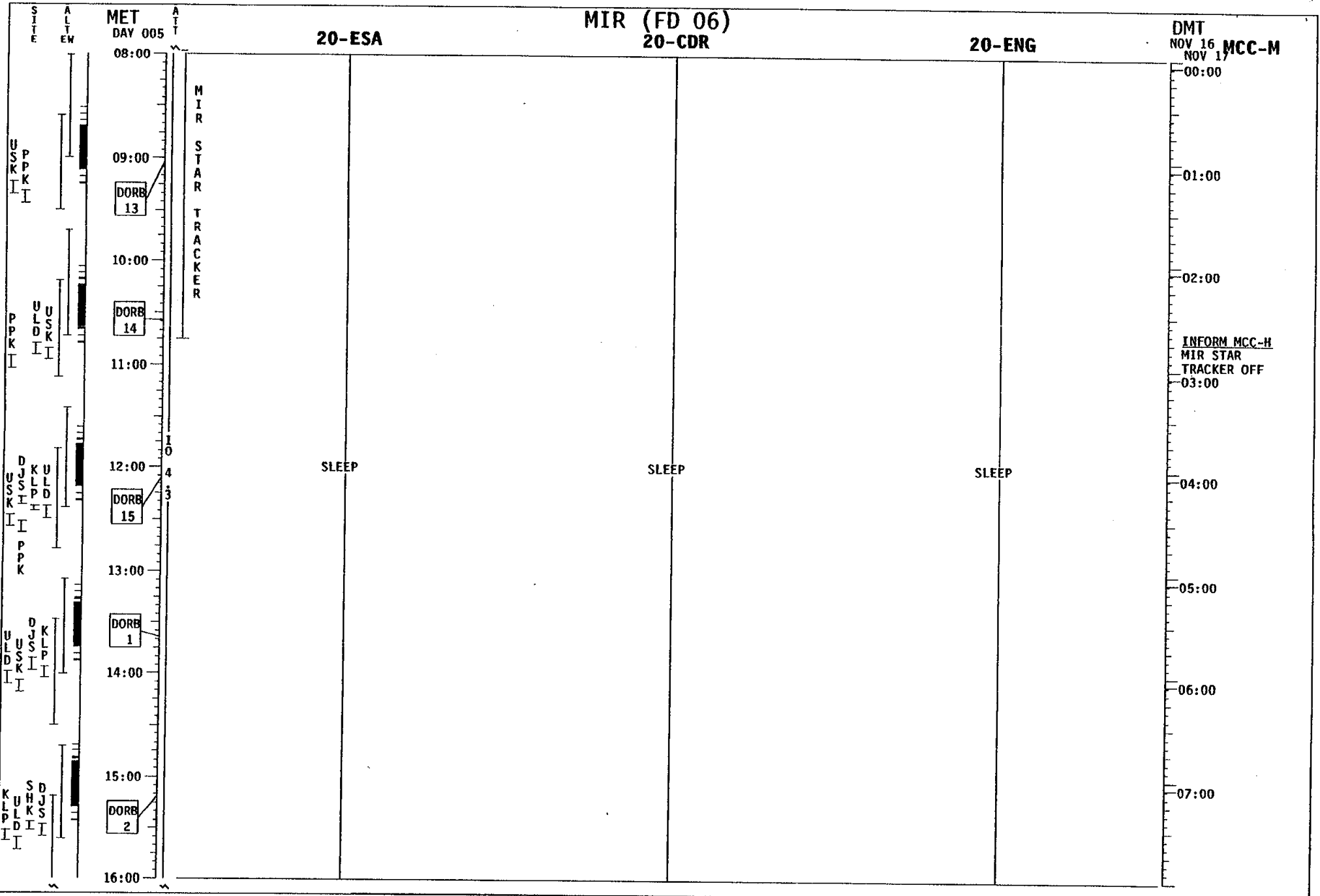


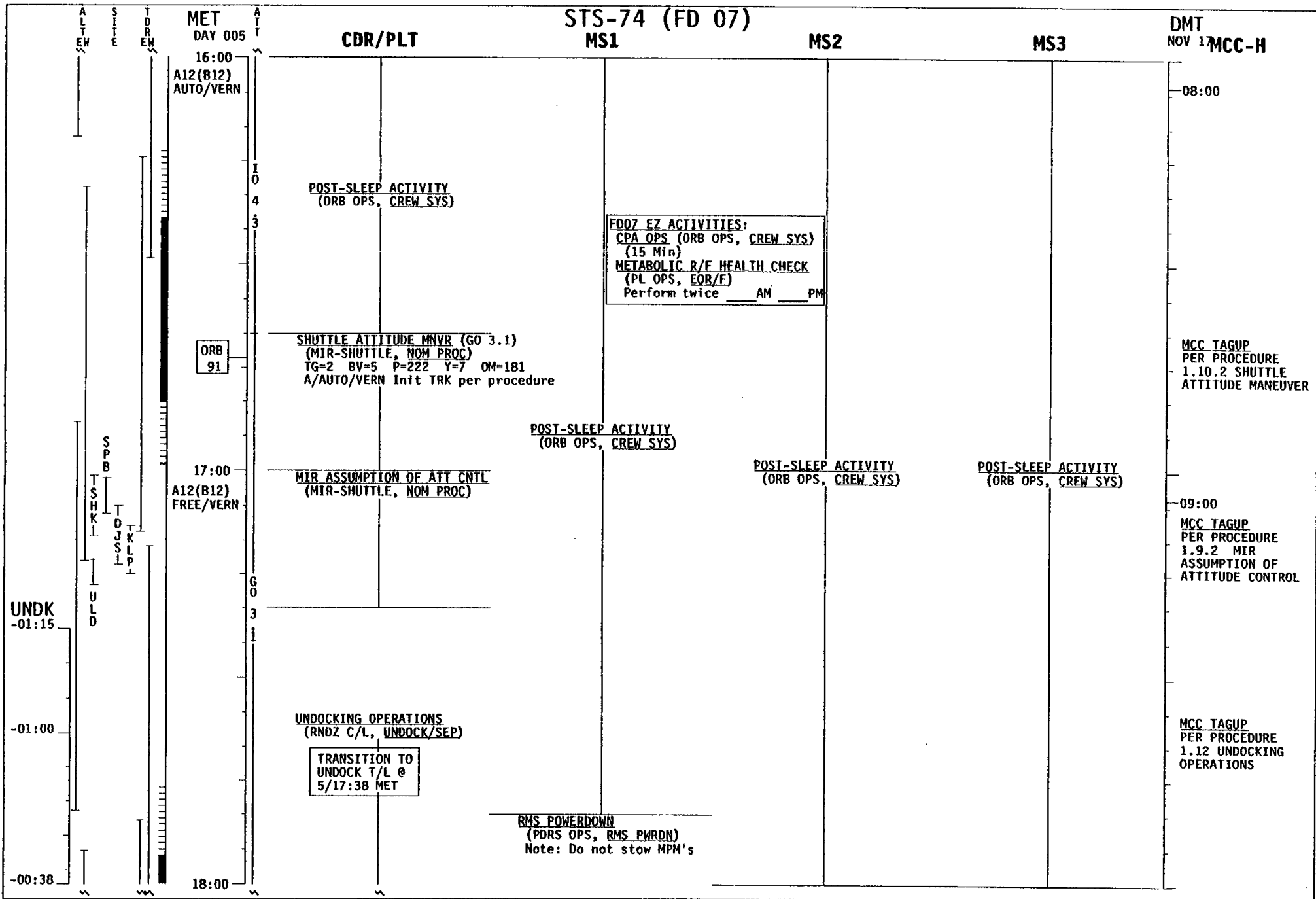


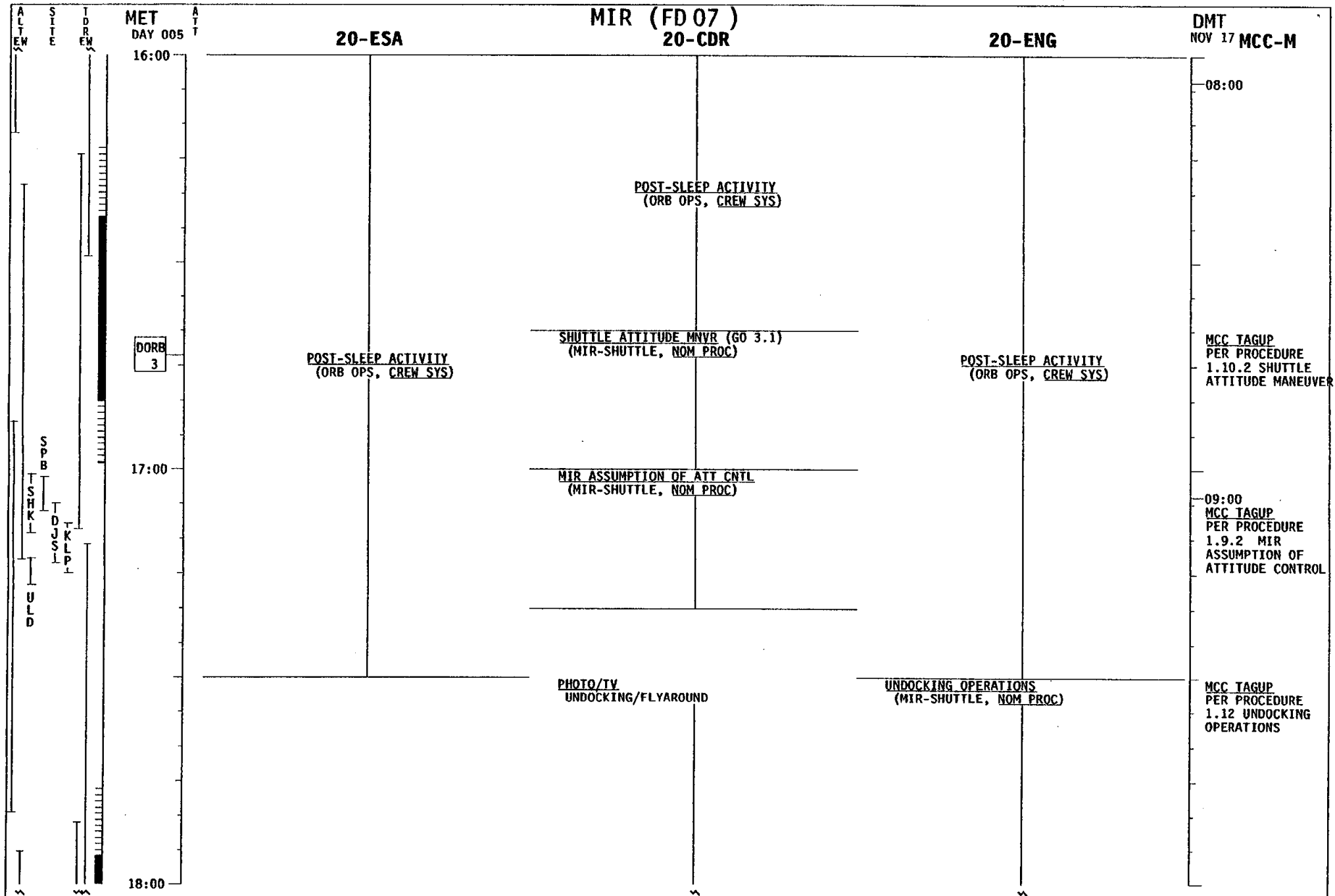


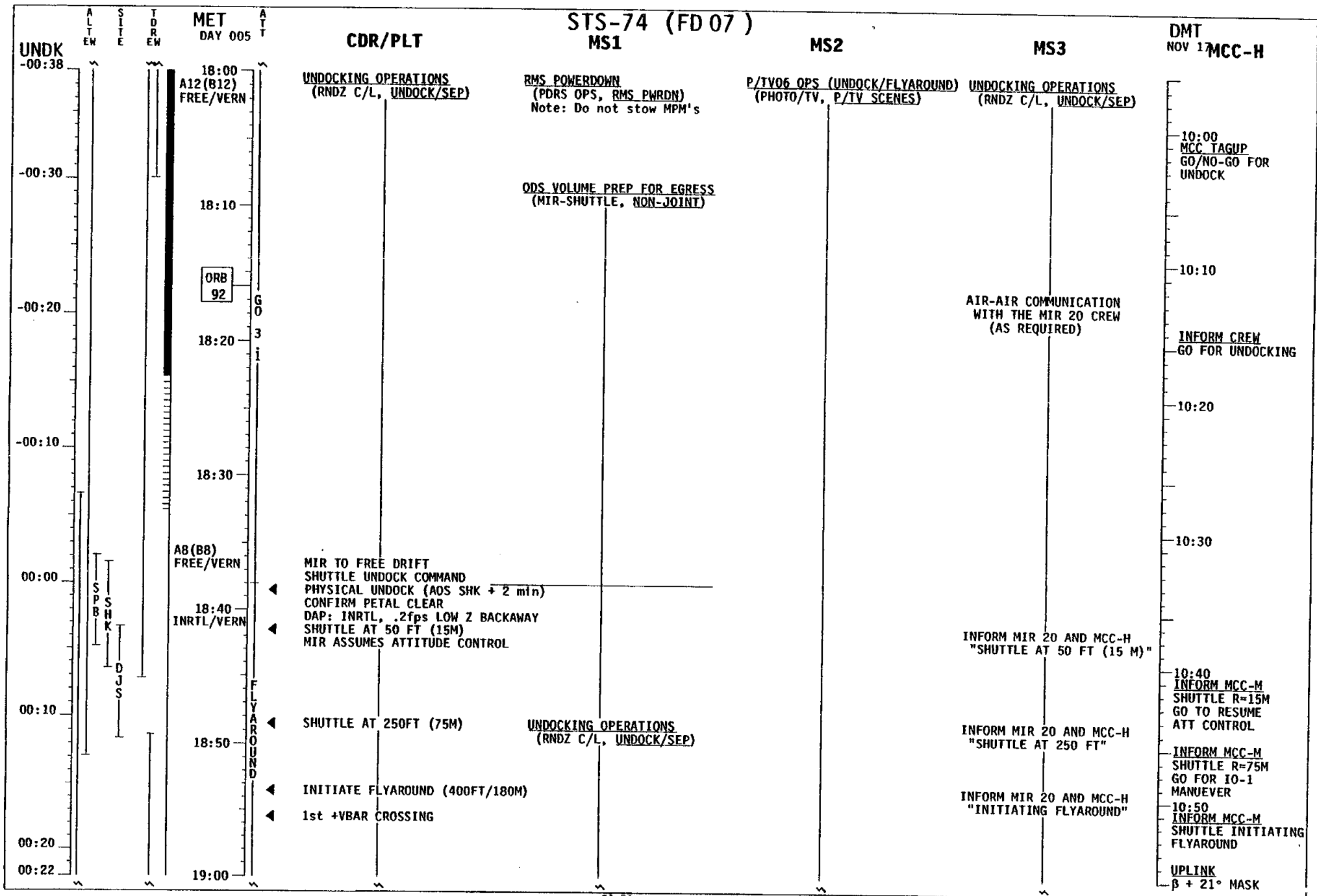


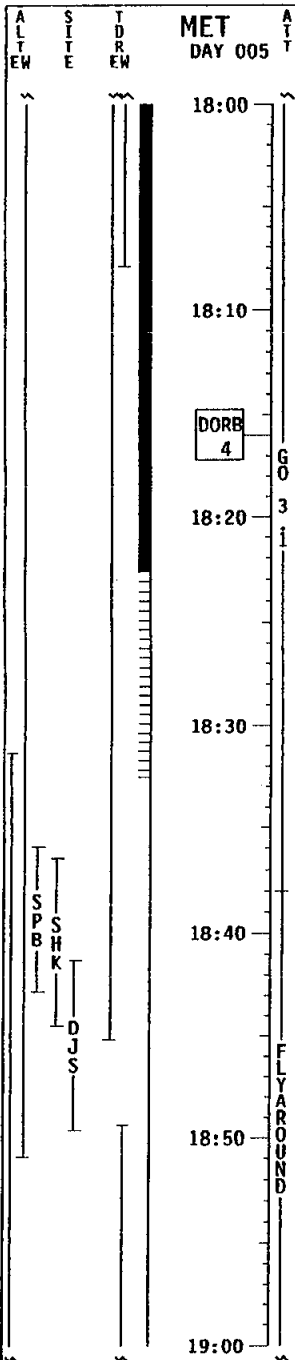












20-ESA

MIR (FD 07)
20-CDR

PHOTO/TV
UNDOCKING/FLYAROUND

20-ENG

DMT
NOV 17 MCC-M

UNDOCKING OPERATIONS
(MIR-SHUTTLE, NOM PROC)

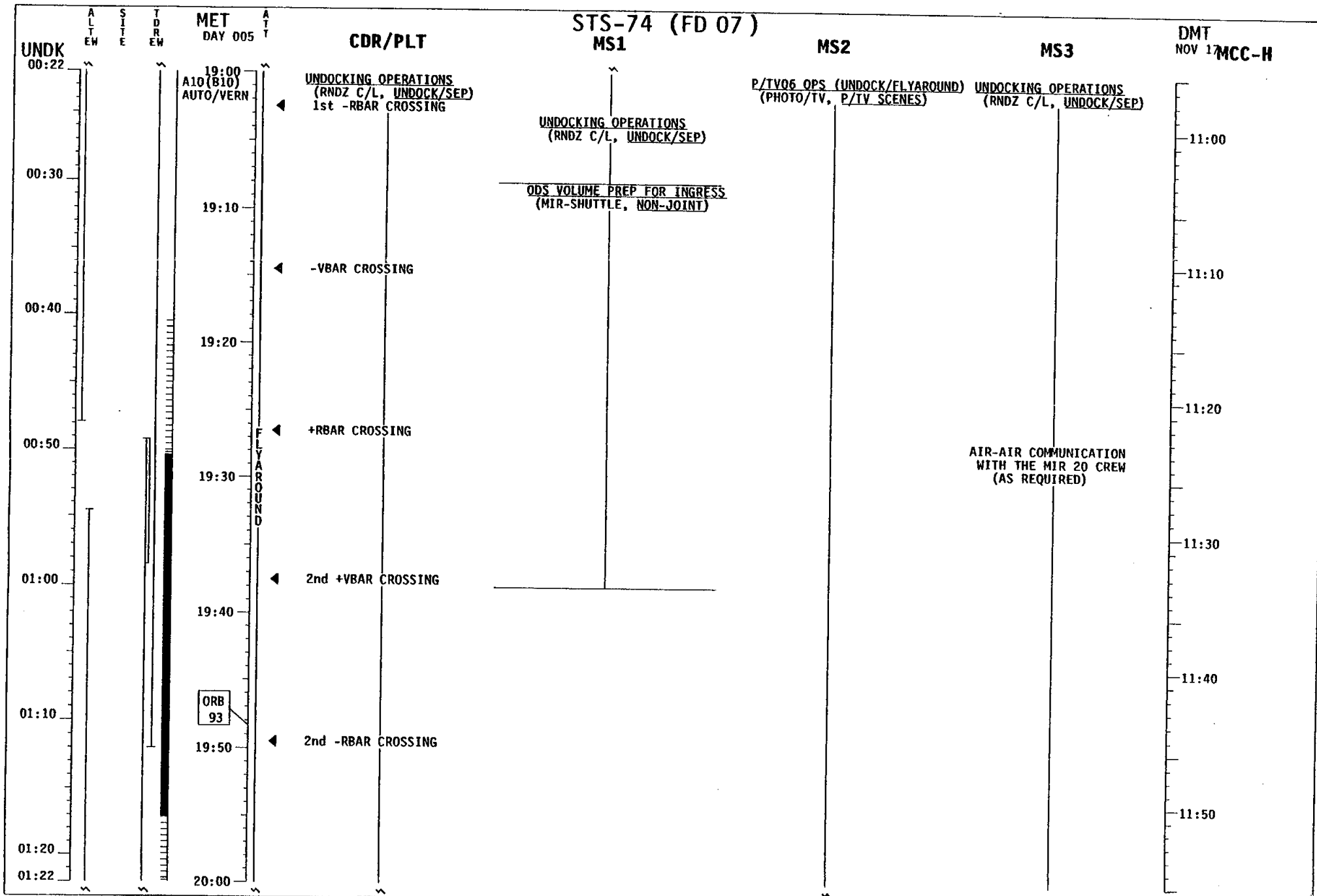
MIR TO FREE DRIFT
SHUTTLE UNDOCKING COMMAND

PHYSICAL UNDOCKING (AOS SHK + 2 min) ▶

WHEN SHUTTLE AT 50ft (15m),
MIR RESUMES GO-TBD ATTITUDE

When Shuttle reaches 250ft(75m),
MIR MNVR IO-1 ATTITUDE





ALT
EW
SITE
TDR
EN
MET
DAY 005
ATT
T

20-ESA

MIR (FD 07)
20-CDR

20-ENG

DMT
NOV 17 MCC-M

19:00

19:10

19:20

19:30

19:40

19:50

20:00

FLYAROUND

DORB
5

PHOTO/TV
UNDOCKING/FLYAROUND

When Shuttle reaches 250ft(75m),
MIR MNVR IO-1 ATTITUDE

MONITOR FLYAROUND
PHOTO/TV AND
AIR-TO-AIR COMM
WITH SHUTTLE
UNTIL LOSS OF
SIGNAL

INFORM MCC-H
MIR IN IO-1
ATTITUDE

11:00

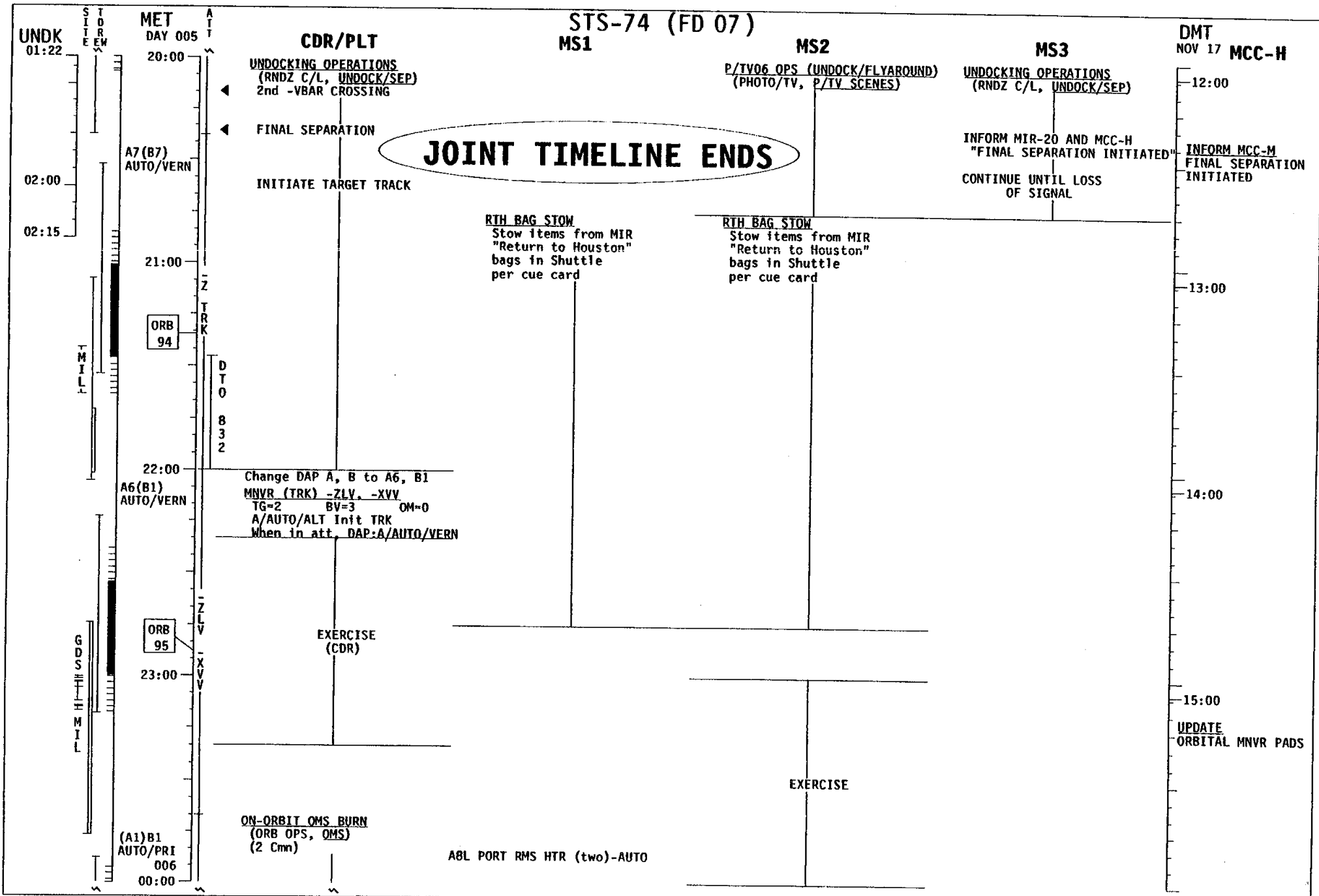
11:10

11:20

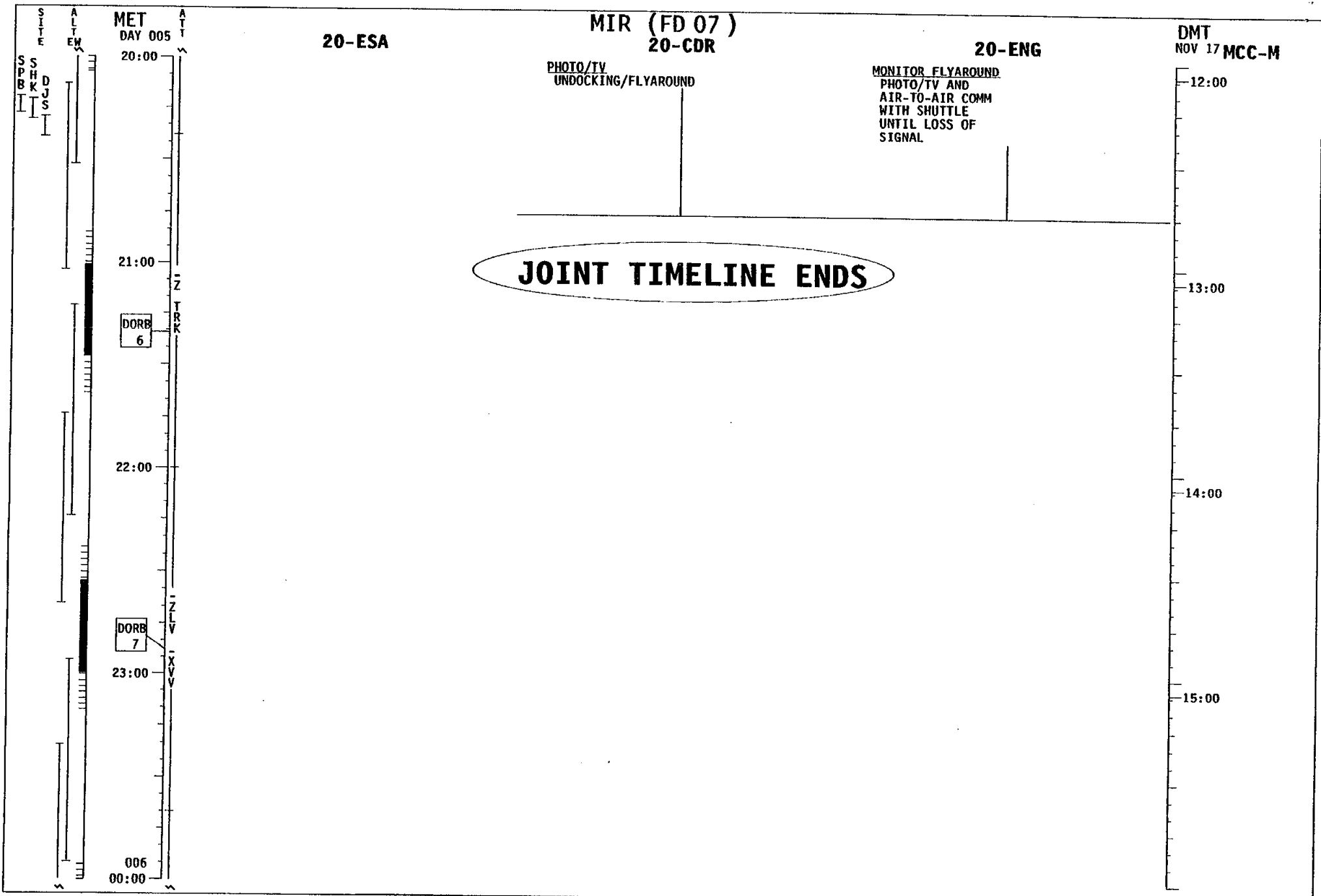
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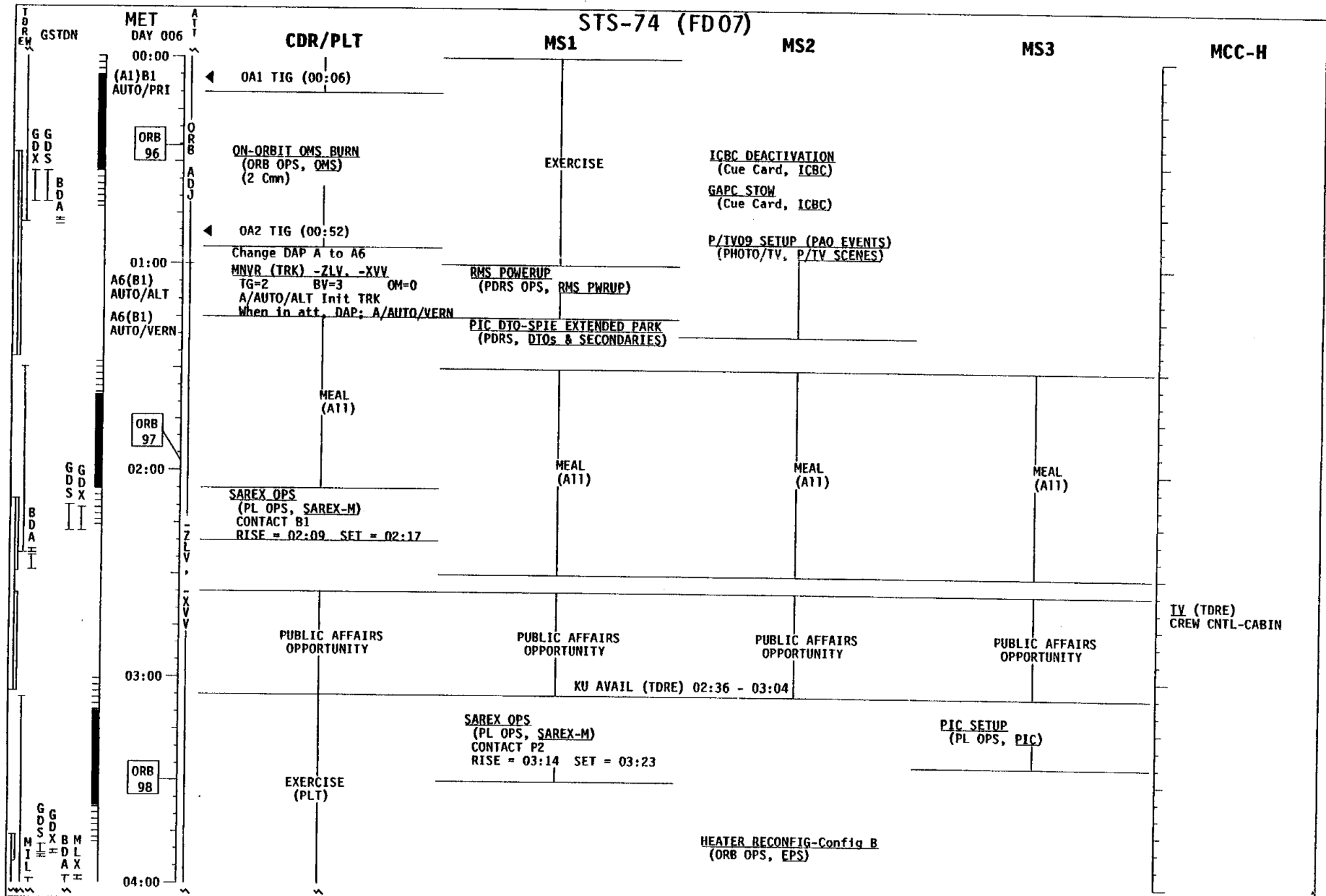
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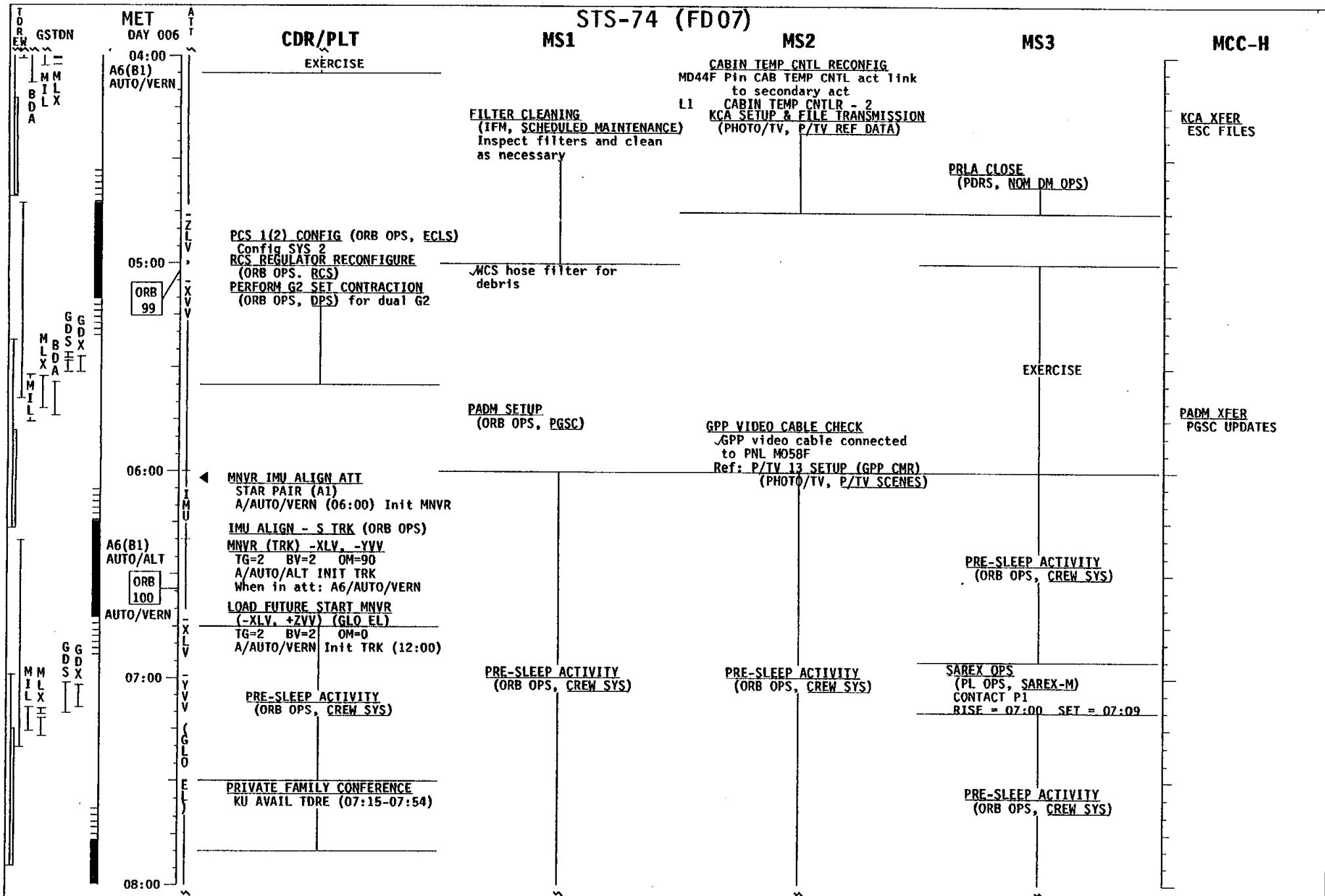
11:50

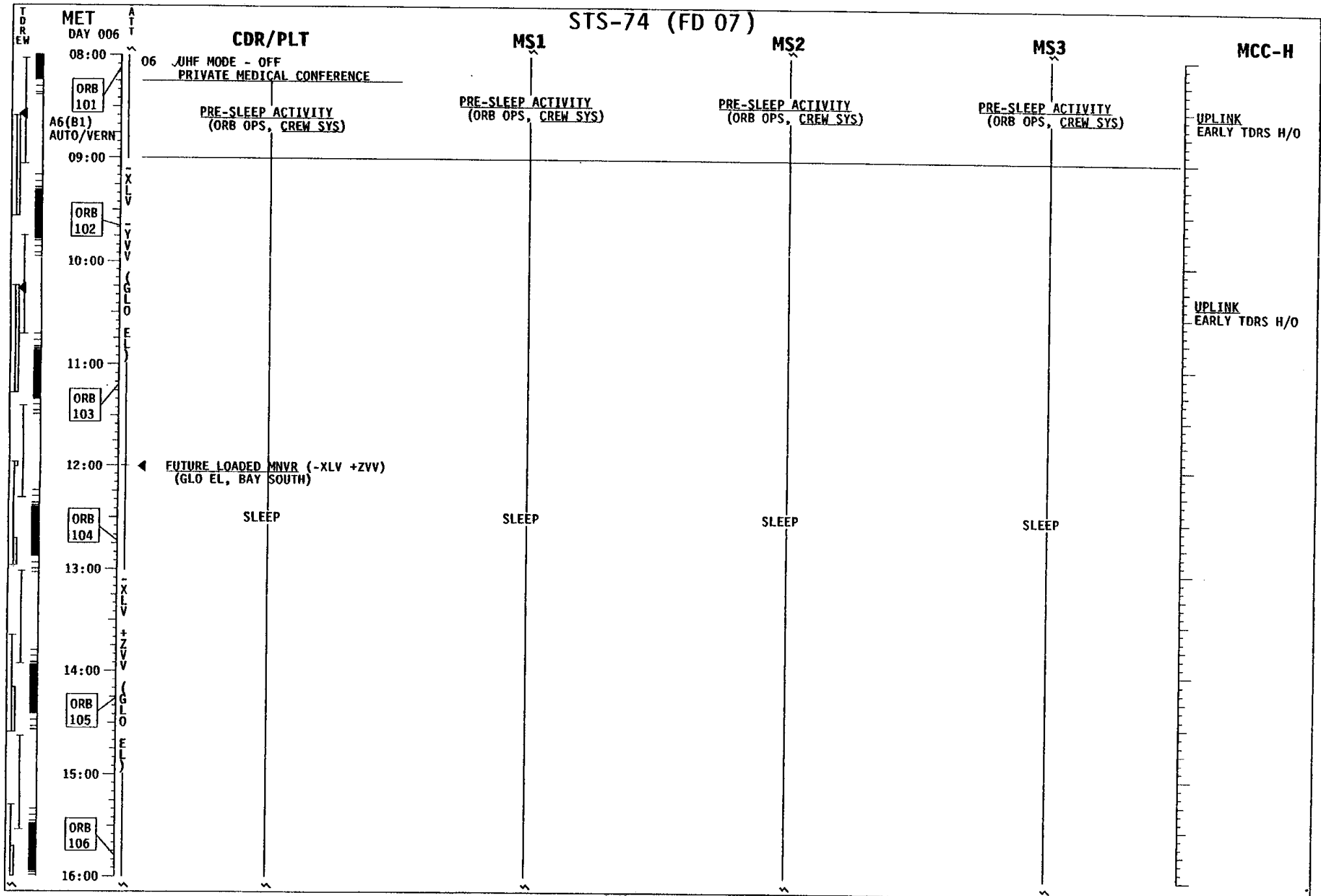


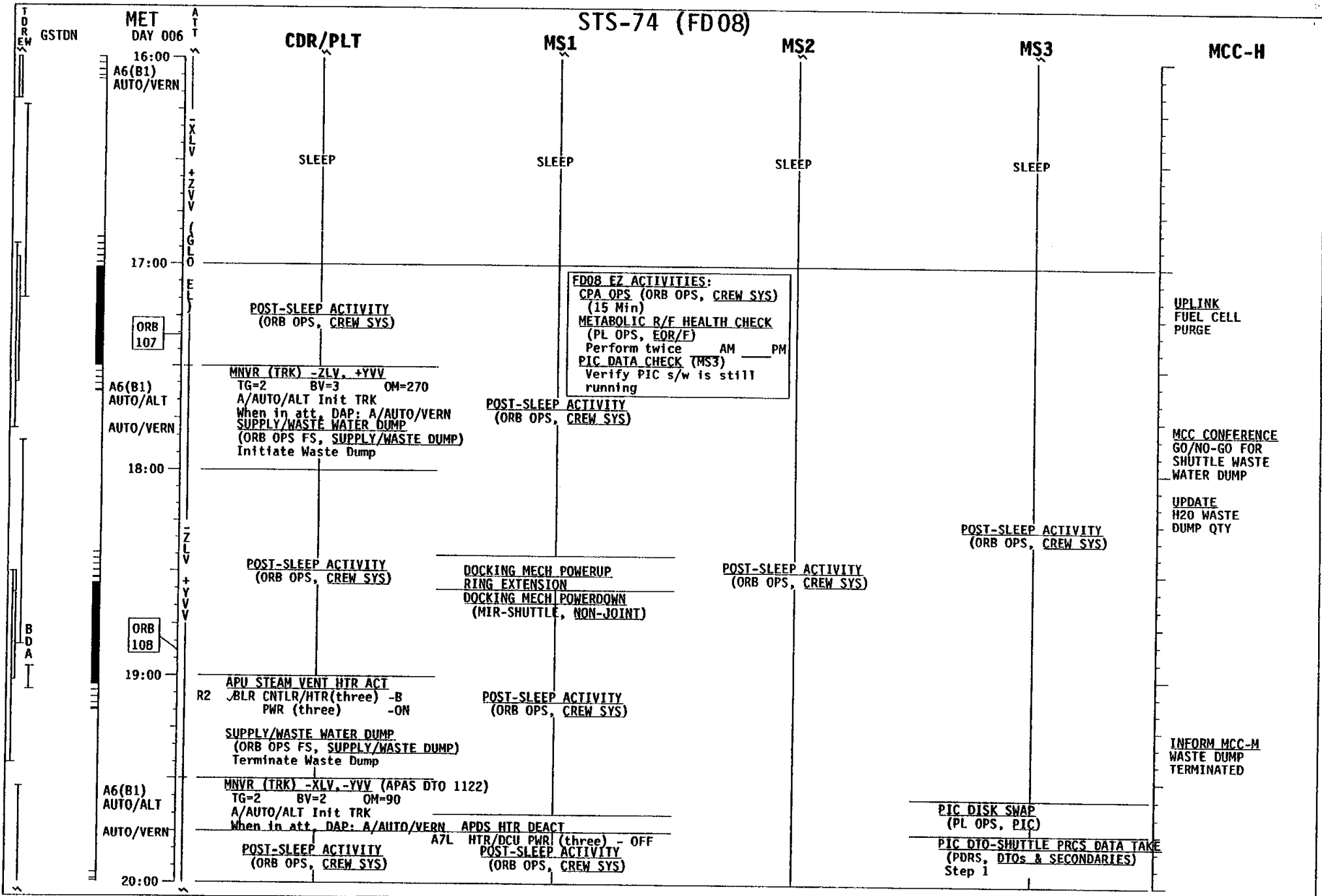
JOINT TIMELINE ENDS



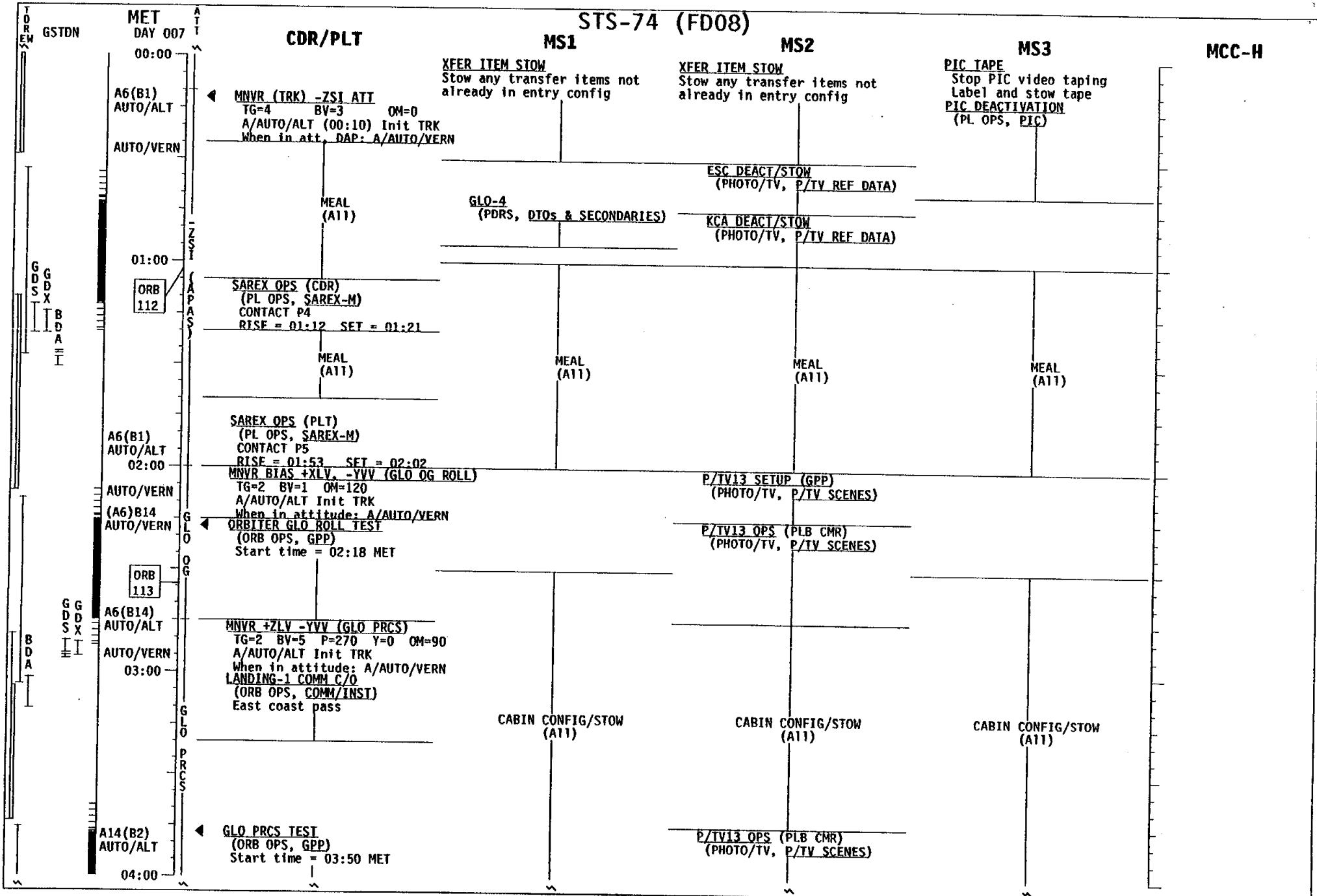




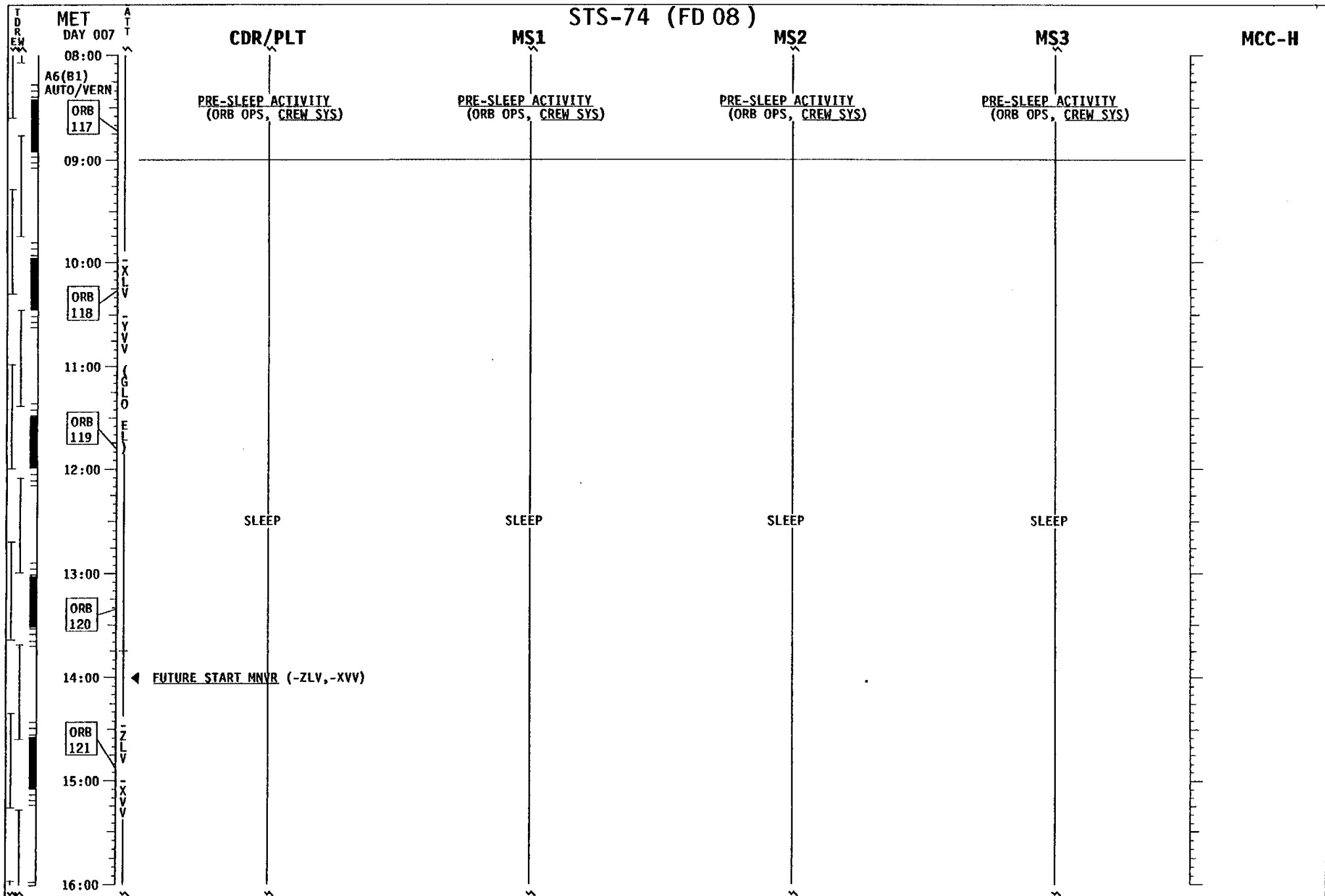


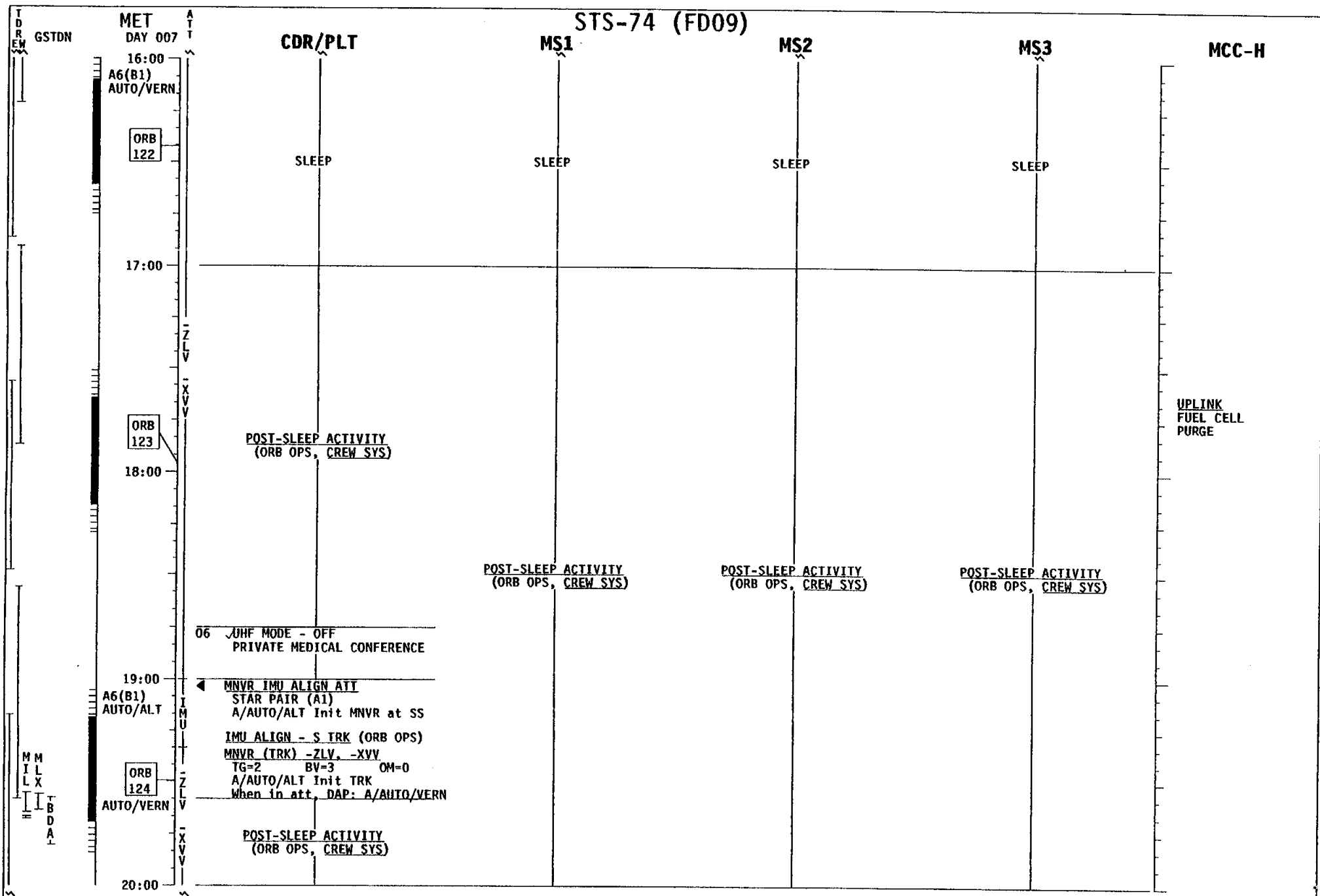


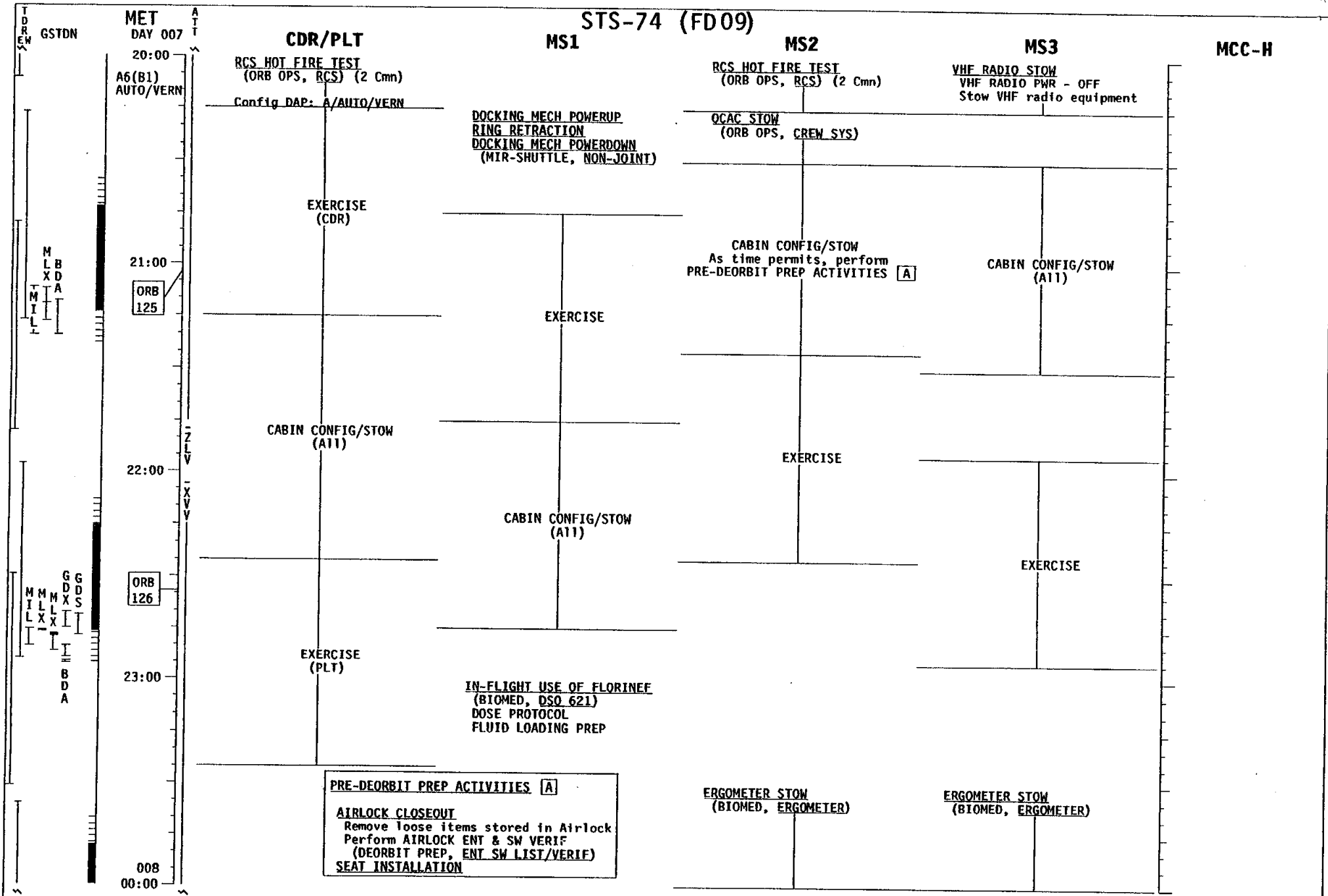
		STS-74 (FD08)				
MET DAY 006		CDR/PLT	MS1	MS2	MS3	MCC-H
20:00	A6(B1) AUTO/VERN	ECS CHECKOUT (ORB OPS, GNC) (2 Cmn)	XFER ITEM STOW Stow any transfer items not already in entry config		XFER ITEM STOW Stow any transfer items not already in entry config	
21:00				EXERCISE		
22:00	ORB 109	APU HTR RECONFIG (ORB OPS)		P/TV09 SETUP (PAO EVENTS) (PHOTO/TV, P/TV SCENES)	EXERCISE	UPLINK EARLY TDORS H/O
	ORB 110	APAS DCU PWR A6 .SYS PWR SYS 1,2 tb (two)-ON A7 HTR/DCU POWER (three)-ON				
		PUBLIC AFFAIRS OPPORTUNITY	PUBLIC AFFAIRS OPPORTUNITY	PUBLIC AFFAIRS OPPORTUNITY	PUBLIC AFFAIRS OPPORTUNITY	TV (TDRE) CREW CNTL-CAB
			KU AVAIL TDRE (22:11-22:38)			
23:00		DEORBIT PREP BRIEF	DEORBIT PREP BRIEF	DEORBIT PREP BRIEF	DEORBIT PREP BRIEF	
	A6(B1) AUTO/ALT	← MNVR (TRK) BIAS -XLV, -YVV TG=2 BV=2 OM=70 A/AUTO/ALT (23:15) Init TRK When in att, DAP: A/AUTO/VERN PIC RCS JET FIRINGS (ORB OPS, DTO 829) TEST MET	XFER ITEM STOW Stow any transfer items not already in entry config	XFER ITEM STOW Stow any transfer items not already in entry config	PIC DTO-SHUTTLE PRCS DATA TAKE (PDRS, DTOS & SECONDARIES) Step 2	
	ORB 111					
00:00	A6(B1) AUTO/VERN				PIC TEMPERATURE CHANGE (PL OPS, PIC)	

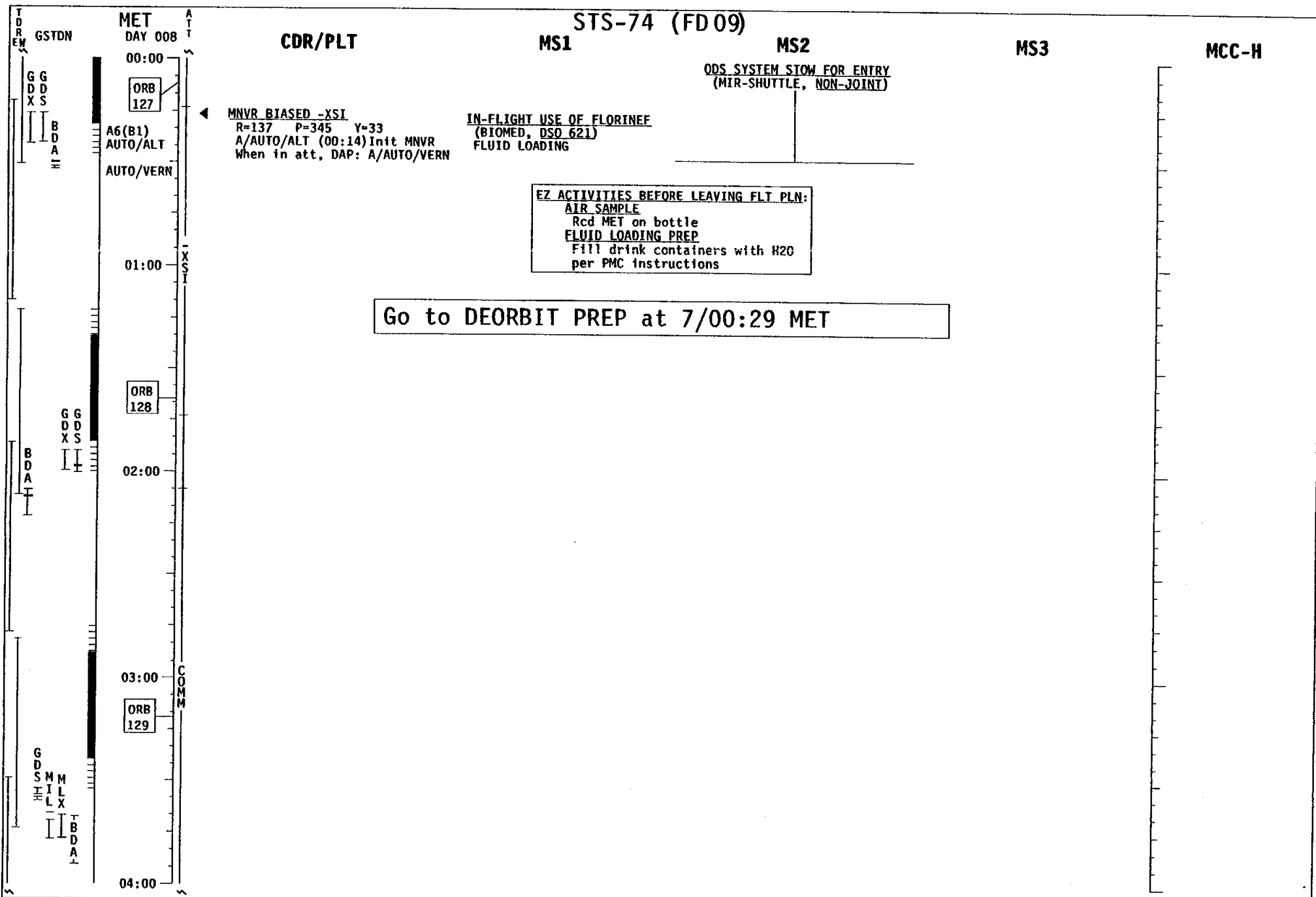


STS-74 (FD 08)









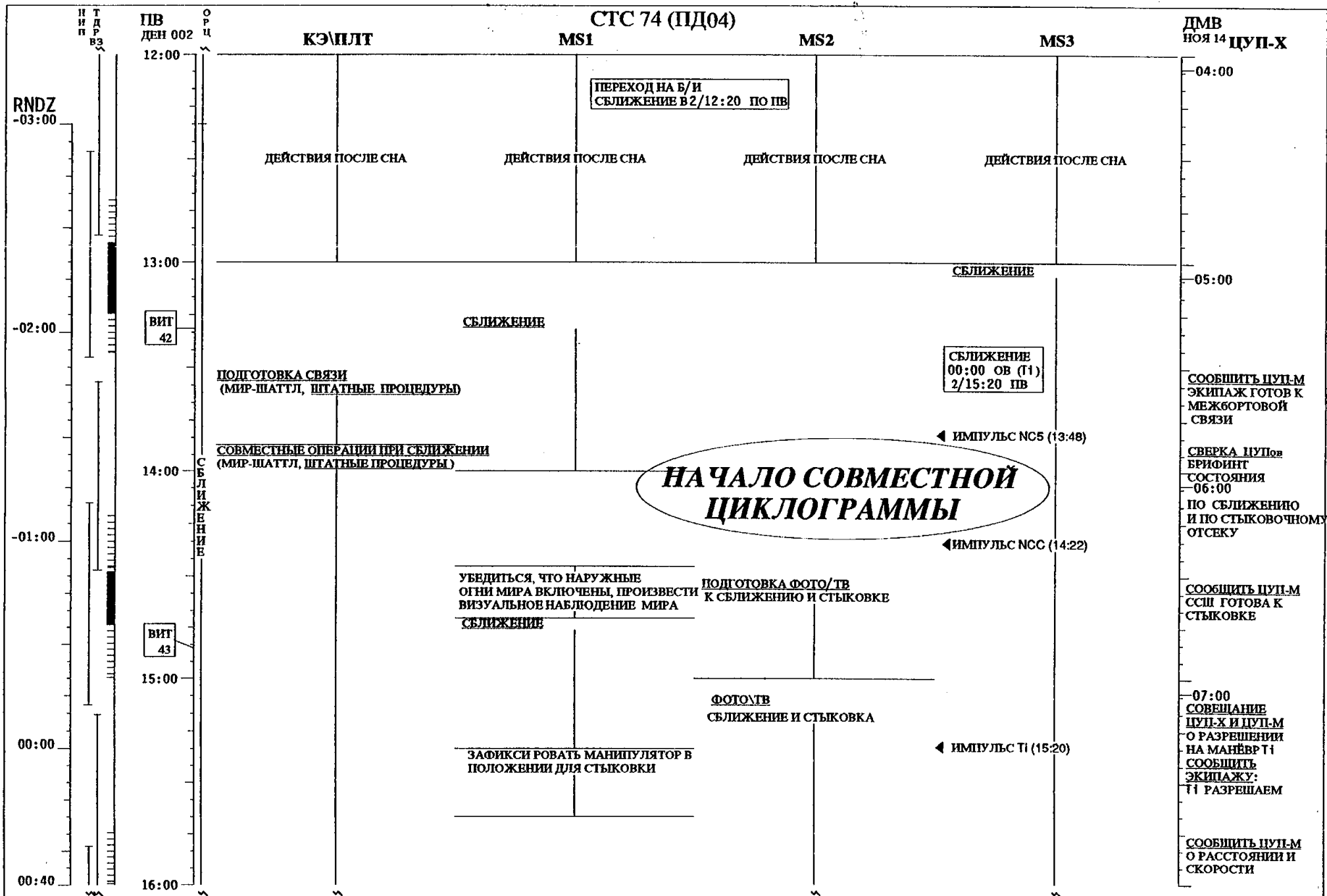
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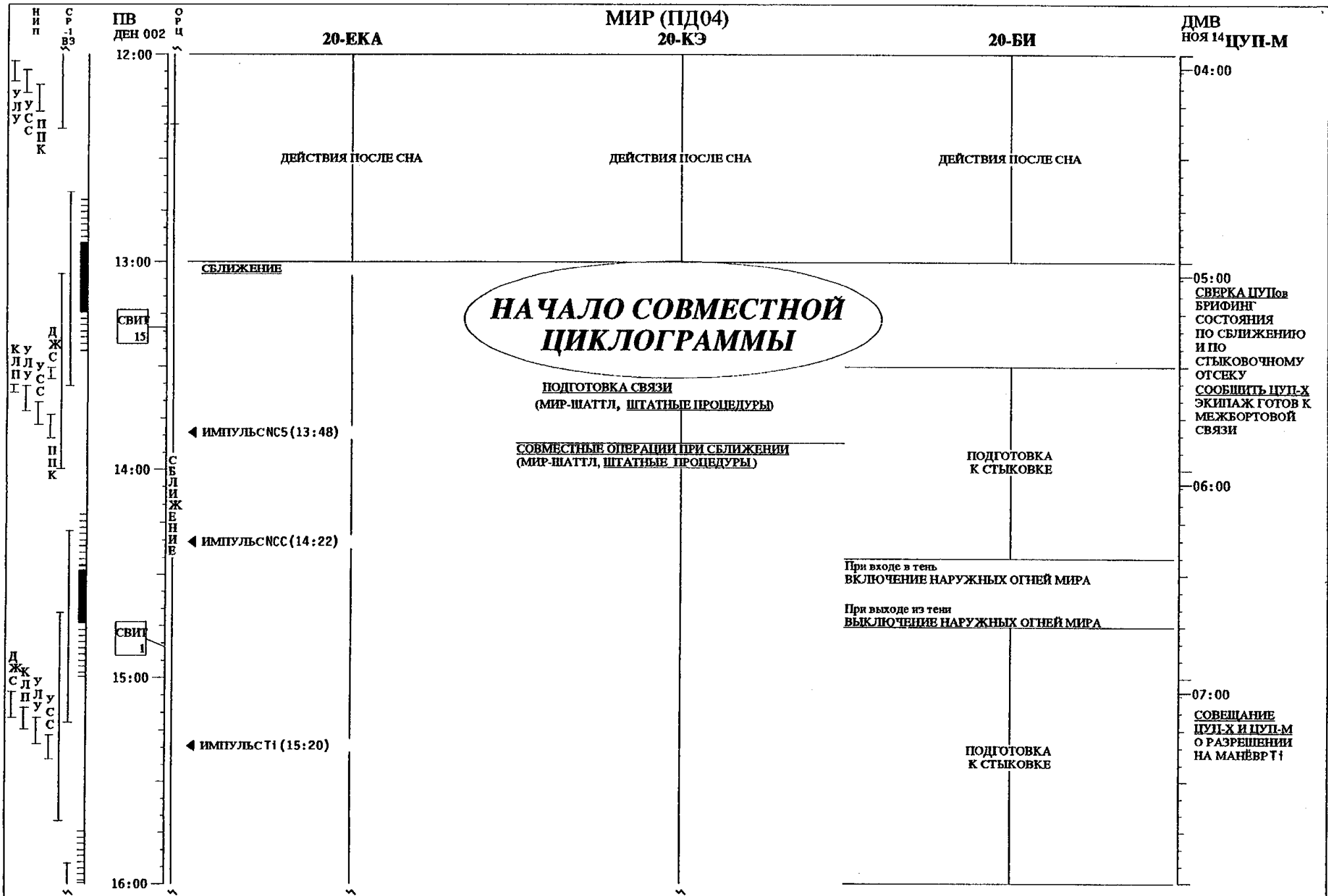
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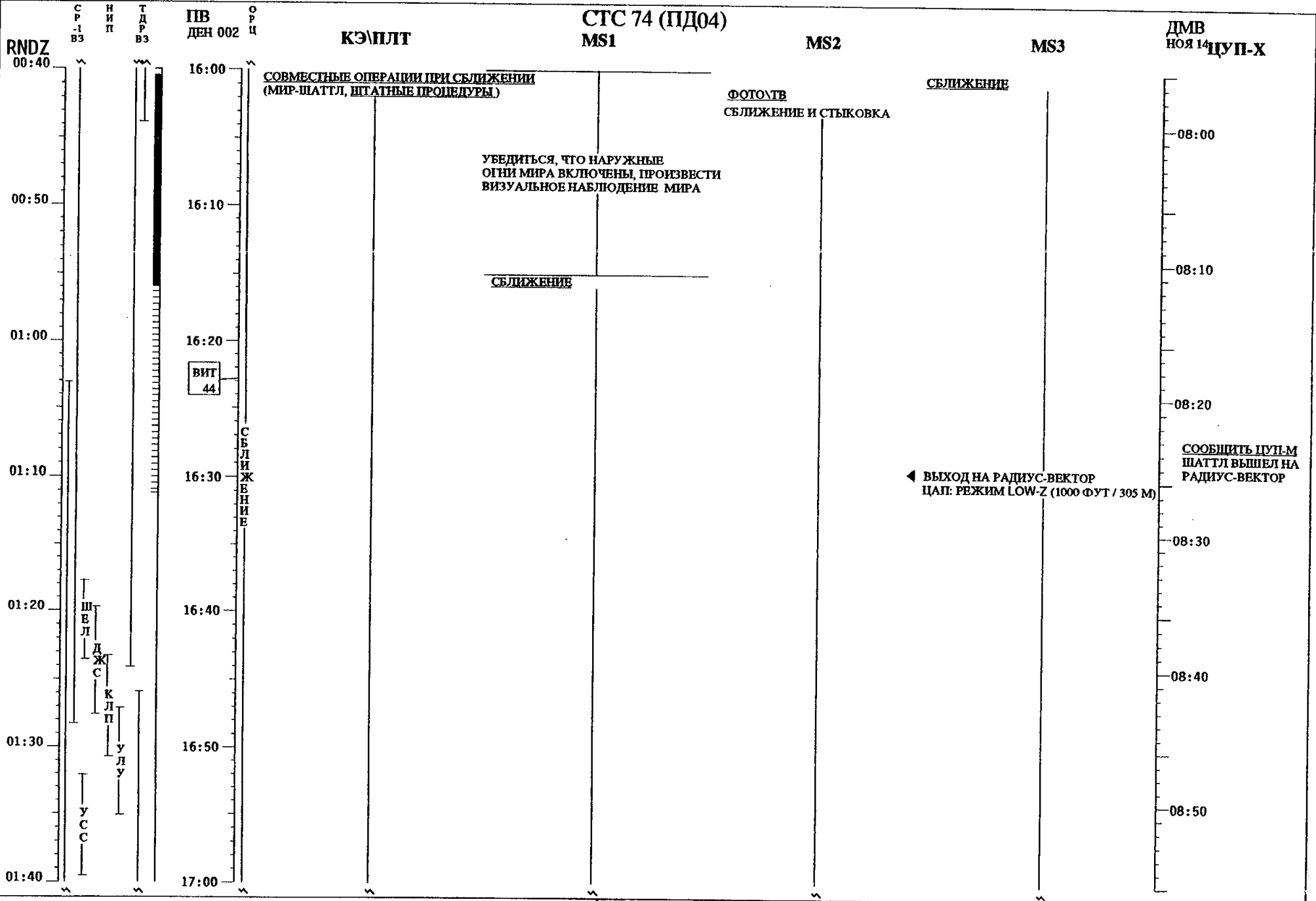
CYRILLIC JOINT TIMELINE

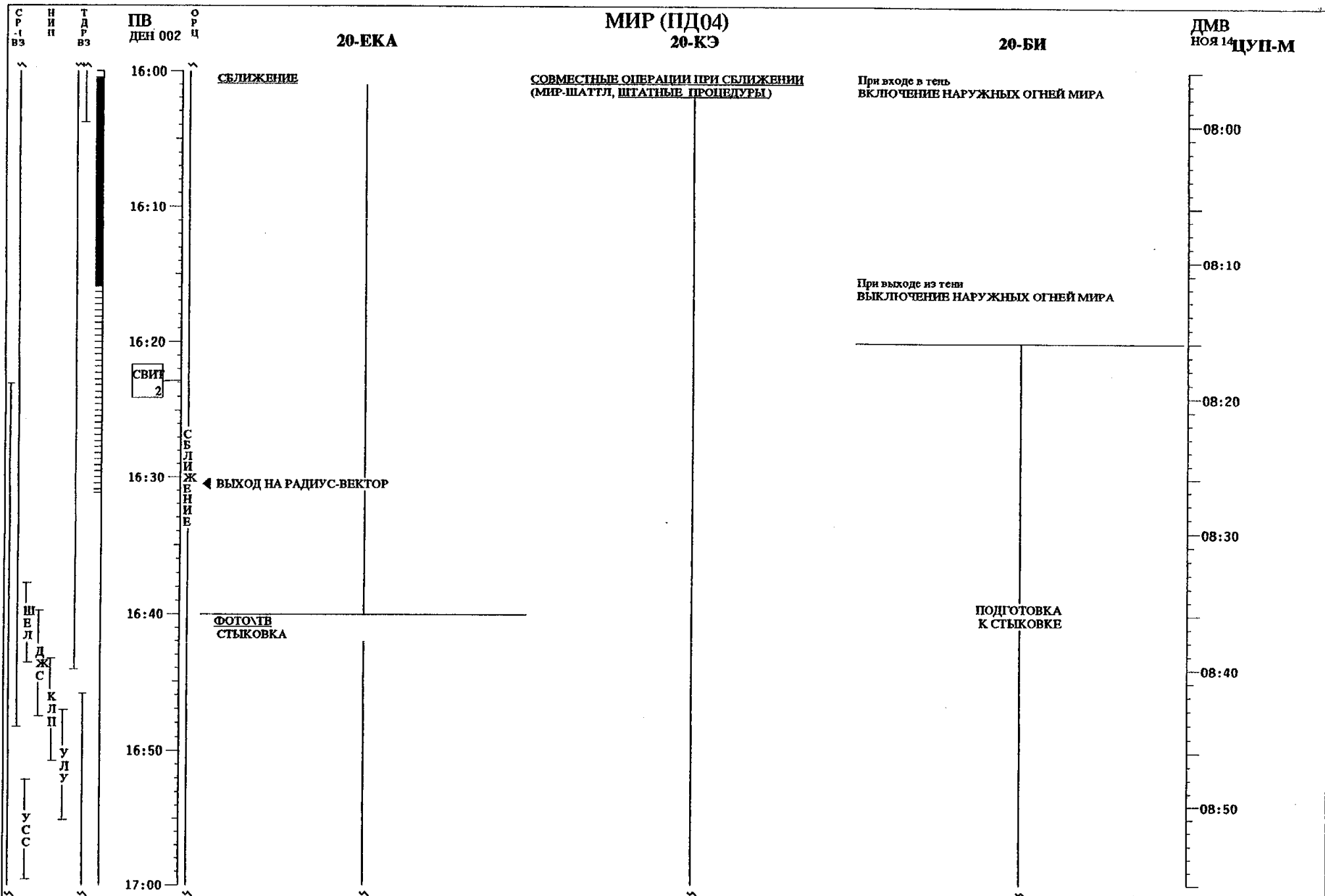
CYRILLIC
JOINT TIMELINE

CYRILLIC JOINT TIMELINE









С Р Т П О
- 1 И Д Р
ВЗ П П ВЗ ДЕН 002 Ц

20-ЕКА

МИР (ПД04)
20-КЭ

20-БИ

ДМВ
Ноя 14 ЦУП-М

17:00
17:10
17:20
17:30
17:40
17:50
18:00

ФОТОЛВ
СТЫКОВКА

◀ ЗАВИСАНИЕ НА РАССТОЯНИИ 170 фут (50 м)

◀ НАЧАТЬ СБЛИЖЕНИЕ ДО 30 фут (9 м)

◀ РАССТОЯНИЕ 100 фут (30 м)

СВИТ
3

С
Б
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И
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Н
И
Е

СОВМЕСТНЫЕ ОПЕРАЦИИ ПРИ СБЛИЖЕНИИ
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

При входе в тень
ВКЛЮЧЕНИЕ НАРУЖНЫХ ОГНЕЙ МИРА

При выходе из тени
ВКЛЮЧЕНИЕ НАРУЖНЫХ ОГНЕЙ МИРА

СОВМЕСТНЫЕ ОПЕРАЦИИ ПРИ СБЛИЖЕНИИ
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

МАНЕВР МИРА

стыковочная ориентация
Мир: ОСК-6;
-ZБ по радиусу-вектору
+ХБ по вектору скорости, отклонена от
оси +Хоск к оси -Zоск на 25°
Стыковочную ориентацию принять
не позднее, чем за 35 минут до
запланированного момента контакта

ВЫСТАВКА СОЛНЕЧНОЙ ПАНЕЛИ

Выставить солнечную панель
в положение для стыковки

Принять стыковочную ориентацию и
выставить солнечную панель
не позднее, чем за 35 минут до
запланированного момента контакта

ПОДГОТОВКА
К СТЫКОВКЕ

СООБЩИТЬ ПУТЬ-Х
АПСС - ВКЛЮЧЕНА

09:00

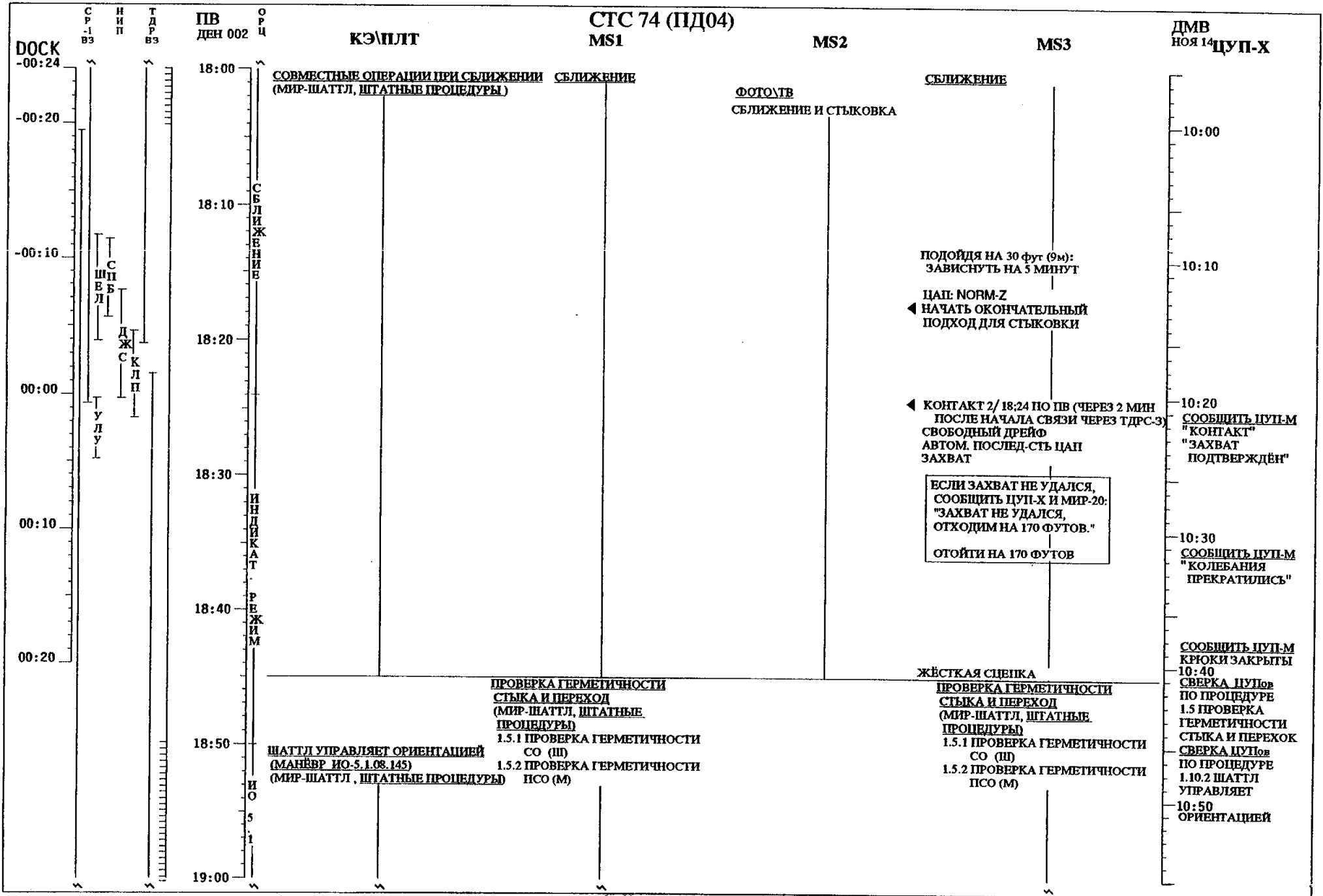
09:10

09:20

09:30

09:40

СООБЩИТЬ ПУТЬ-Х
МИР - В
СТЫКОВОЧНОЙ
ОРИЕНТАЦИИ
СОЛНЕЧНАЯ ПАНЕЛЬ
ВЫСТАВЛЕНА
СООБЩИТЬ ПУТЬ-Х
АПСС КРИСТАЛЛА
ГОТОВА К СТЫКОВКЕ
09:50



СТС 74 (ПД04)
MS1

ДМВ
Ноя 14
ЦУП-Х

DOCK

-00:24
-00:20
-00:16
00:00
00:10
00:20

ПВ
ДЕН 002

18:00
18:10
18:20
18:30
18:40
18:50
19:00

КЭШЛТ

СОВМЕСТНЫЕ ОПЕРАЦИИ ПРИ СБЛИЖЕНИИ
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

СБЛИЖЕНИЕ

ФОТОЛТБ
СБЛИЖЕНИЕ И СТЫКОВКА

СБЛИЖЕНИЕ

ПОДХОД НА 30 футов (9м):
ЗАВИСНУТЬ НА 5 МИНУТ

ЦАП: NORM-Z
НАЧАТЬ ОКОНЧАТЕЛЬНЫЙ
ПОДХОД ДЛЯ СТЫКОВКИ

КОНТАКТ 2/18:24 ПО ПВ (ЧЕРЕЗ 2 МИН
ПОСЛЕ НАЧАЛА СВЯЗИ ЧЕРЕЗ ТДРС-3)
СВОБОДНЫЙ ДРЕЙФ
АВТОМ. ПОСЛЕД-СТЬ ЦАП
ЗАХВАТ

ЕСЛИ ЗАХВАТ НЕ УДАЛСЯ,
СООБЩИТЬ ЦУП-Х И МИР-20:
"ЗАХВАТ НЕ УДАЛСЯ,
ОТХОДИМ НА 170 ФУТОВ."
ОТЙТИ НА 170 ФУТОВ

ЖЁСТКАЯ СЛЕНКА

ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СТЫКА И ПЕРЕХОД
(МИР-ШАТТЛ, ШТАТНЫЕ
ПРОЦЕДУРЫ)
1.5.1 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СО (Ш)
1.5.2 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
ПСО (М)

ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ
(МАНЕВР ИО-5.1.08.145)
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

1.5.1 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СО (Ш)
1.5.2 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
ПСО (М)

10:00
10:10
10:20
10:30
10:40
10:50

СООБЩИТЬ ЦУП-М
"КОНТАКТ"
"ЗАХВАТ
ПОДТВЕРЖДЁН"

СООБЩИТЬ ЦУП-М
"КОЛЕБАНИЯ
ПРЕКРАТИЛИСЬ"

СООБЩИТЬ ЦУП-М
КРЮКИ ЗАКРЫТЫ
10:40
СВЕРКА ЦУПов
ПО ПРОЦЕДУРЕ
1.5 ПРОВЕРКА
ГЕРМЕТИЧНОСТИ
СТЫКА И ПЕРЕХОД
СВЕРКА ЦУПов
ПО ПРОЦЕДУРЕ
1.10.2 ШАТТЛ
УПРАВЛЯЕТ
ОРИЕНТАЦИЕЙ

С Р -1 ВЗ
Н И П
Т Д Р ВЗ
П В ДЕН 002
О Р Ц

20-ЕКА

МИР (ПД04)
20-КЭ

20-БИ

ДМВ
Ноя 14
ДУП-М

18:00
18:10
18:20
18:30
18:40
18:50
19:00

ФОТОТВ
СТЫКОВКА

СОВМЕСТНЫЕ ОПЕРАЦИИ ПРИ СБЛИЖЕНИИ
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

КОГДА ШАТТЛ НА РАССТОЯНИИ 55 ФУТ
ДИНАМИЧЕСКИЙ КОНТРОЛЬ ОТКЛЮЧЕН.
ГИРОДИНЫ РАЗГРУЖЕНЫ

10:00

СООБЩИТЬ ЦУП-Х
ДИНАМИЧЕСКИЙ
КОНТРОЛЬ
ОТКЛЮЧЕН И
ГИРОДИНЫ
РАЗГРУЖЕНЫ
10:10

← РАССТОЯНИЕ 30 фут (9 м)

← КОНТАКТ (не ранее, чем при НС через УЛД)

ПОСЛЕ ЗАХВАТА, МИР - В
ИНДИКАТОРНОМ РЕЖИМЕ

10:20

СООБЩИТЬ ЦУП-Х
МИР - В
ИНДИКАТОРНОМ
РЕЖИМЕ

КОГДА ШАТТЛ ПОДТВЕРДИТ ЗАХВАТ,
ВОЗООБНОВИТЬ РАБОТУ СОСБ

10:30

ЖЁСТКАЯ СЦЕПКА

ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СТЬКА И ПЕРЕХОД
(МИР-ШАТТЛ, ШТАТНЫЕ
ПРОЦЕДУРЫ)

ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ
(МАНЁВР ИО-5.1.08.145)
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

10:40

СВЕРКА ЦУПов
ПО ПРОЦЕДУРЕ
1.5 ПРОВЕРКА
ГЕРМЕТИЧНОСТИ
СТЬКА И ПЕРЕХОД
СВЕРКА ЦУПов
ПО ПРОЦЕДУРЕ
1.10.2 ШАТТЛ
УПРАВЛЯЕТ
10:50
ОРИЕНТАЦИЕЙ

СОВМЕСТНЫЕ ОПЕРАЦИИ ПРИ СБЛИЖЕНИИ
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

1.5.1 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СО (Ш)
1.5.2 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
ПСО (М)

С
Р
-1
ВЗ

Н
И
П

Т
Д
Р
ВЗ

ПВ
ДЕН 002

О
Р
Ц

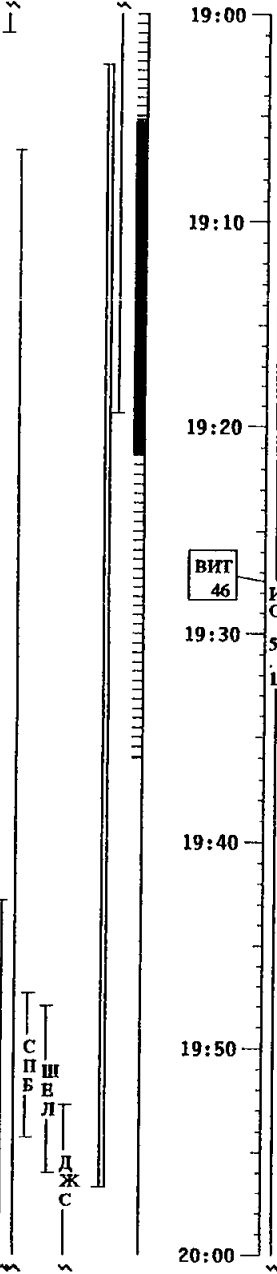
СТС 74 (ПД04)
MS1

MS2

MS3

ДМВ
НОЯ 14 ЦУП-Х

КЭПЛТ



19:00 ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ
(МАНВР ИО-5.1.08.145)
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

19:00 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СТЫКА И ПЕРЕХОД
(МИР-ШАТТЛ, ШТАТНЫЕ
ПРОЦЕДУРЫ)
1.5.3 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СТЫКА (М)

19:00 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СТЫКА И ПЕРЕХОД
(МИР-ШАТТЛ, ШТАТНЫЕ
ПРОЦЕДУРЫ)
1.5.3 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СТЫКА (М)

11:00

19:10

1.5.4 НАДДУВ ОБЪЕМА СТЫКА ЦМ-Т-СО (М)

1.5.4 НАДДУВ ОБЪЕМА СТЫКА
ЦМ-Т-СО (М)

11:10

19:20

11:20

19:30

1.5.5 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СТЫКА ЦМ-Т-СО (М)

1.5.5 ПРОВЕРКА ГЕРМЕТИЧНОСТИ
СТЫКА ЦМ-Т-СО (М)

11:30

19:40

11:40

19:50

19:50 ИСПЫТАНИЯ В ДИНАМИЧЕСКОМ РЕЖИМЕ
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)
Начать включение двигателей не ранее,
чем при ИС через ШЛК (19:48 по ПВ)

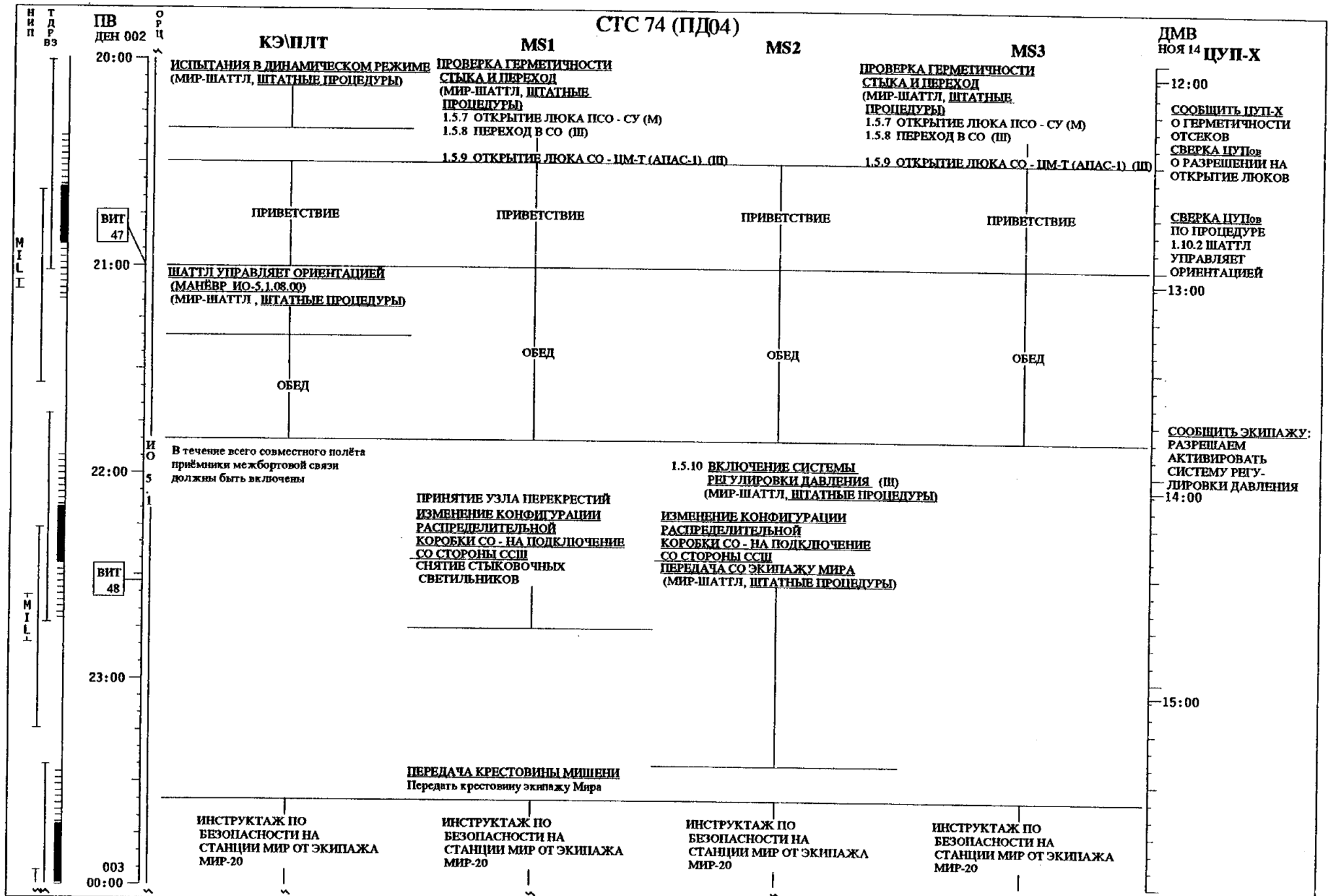
1.5.6 ОКОНЧАТЕЛЬНА ПРОВЕРКА
ГЕРМЕТИЧНОСТИ (Ш и М)

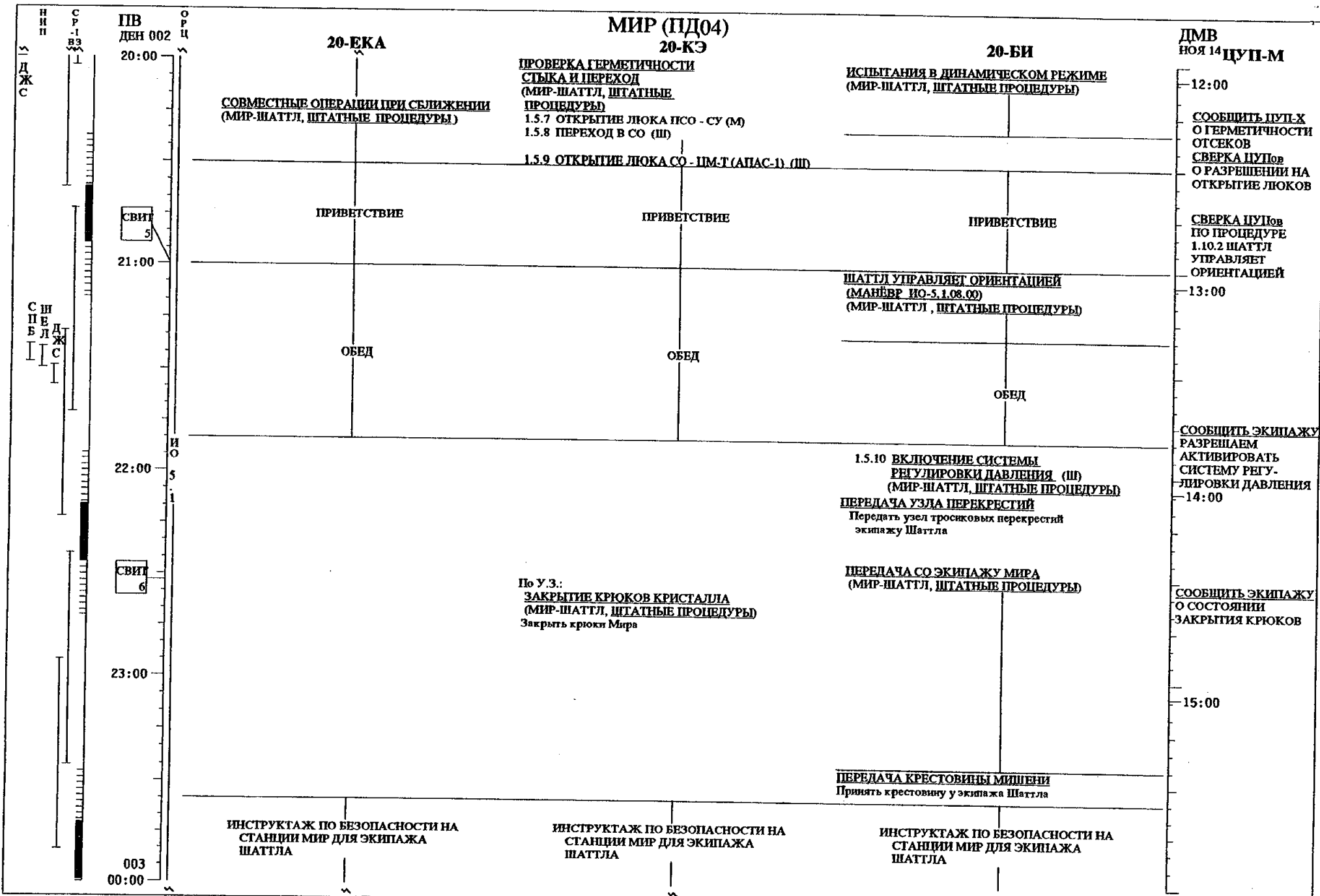
1.5.6 ОКОНЧАТЕЛЬНА ПРОВЕРКА
ГЕРМЕТИЧНОСТИ (Ш и М)

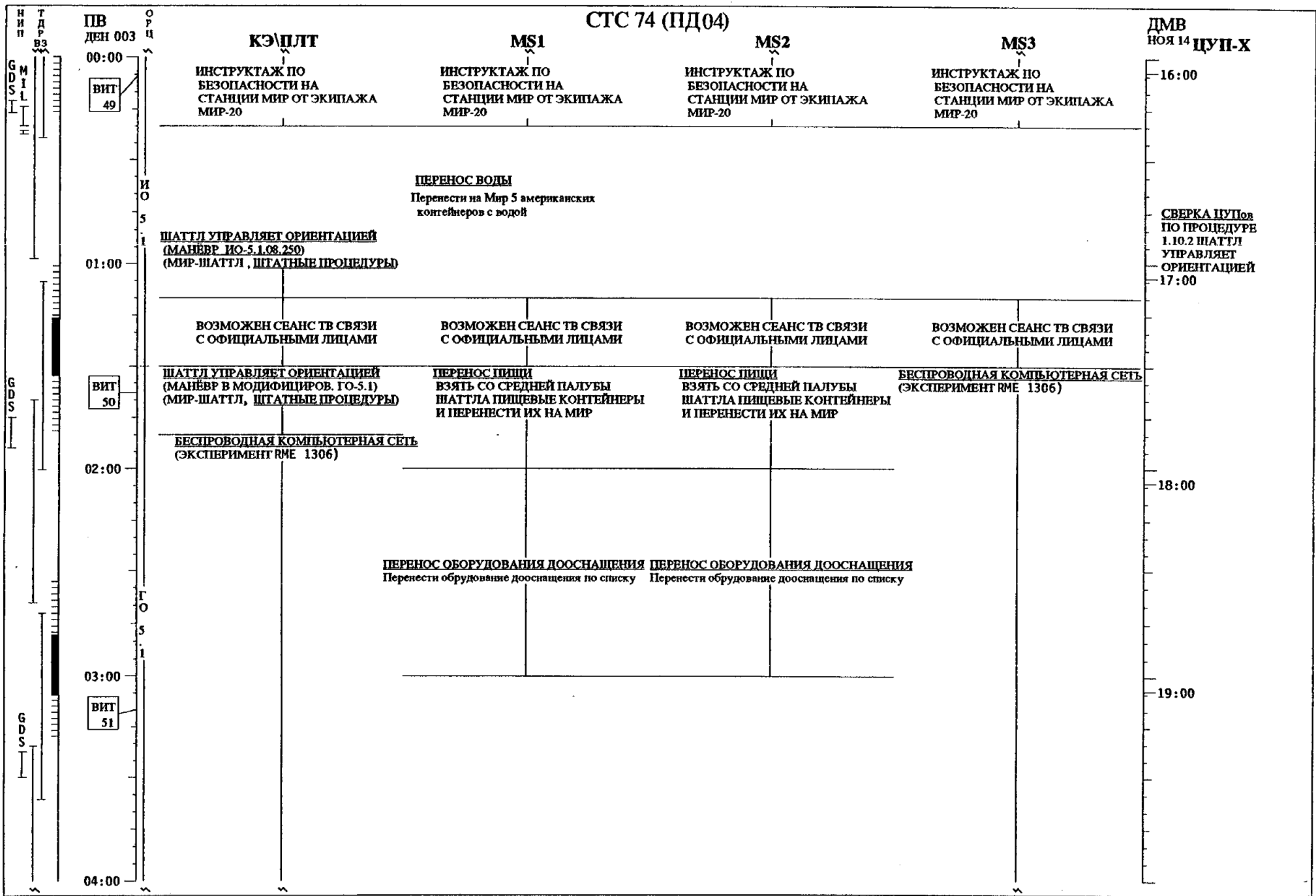
СВЕРКА ЦУПов
О РАЗРЕШЕНИИ НА
ИСПЫТАНИЕ ОДРСУ

11:50

20:00







СТС 74 (ПД04)

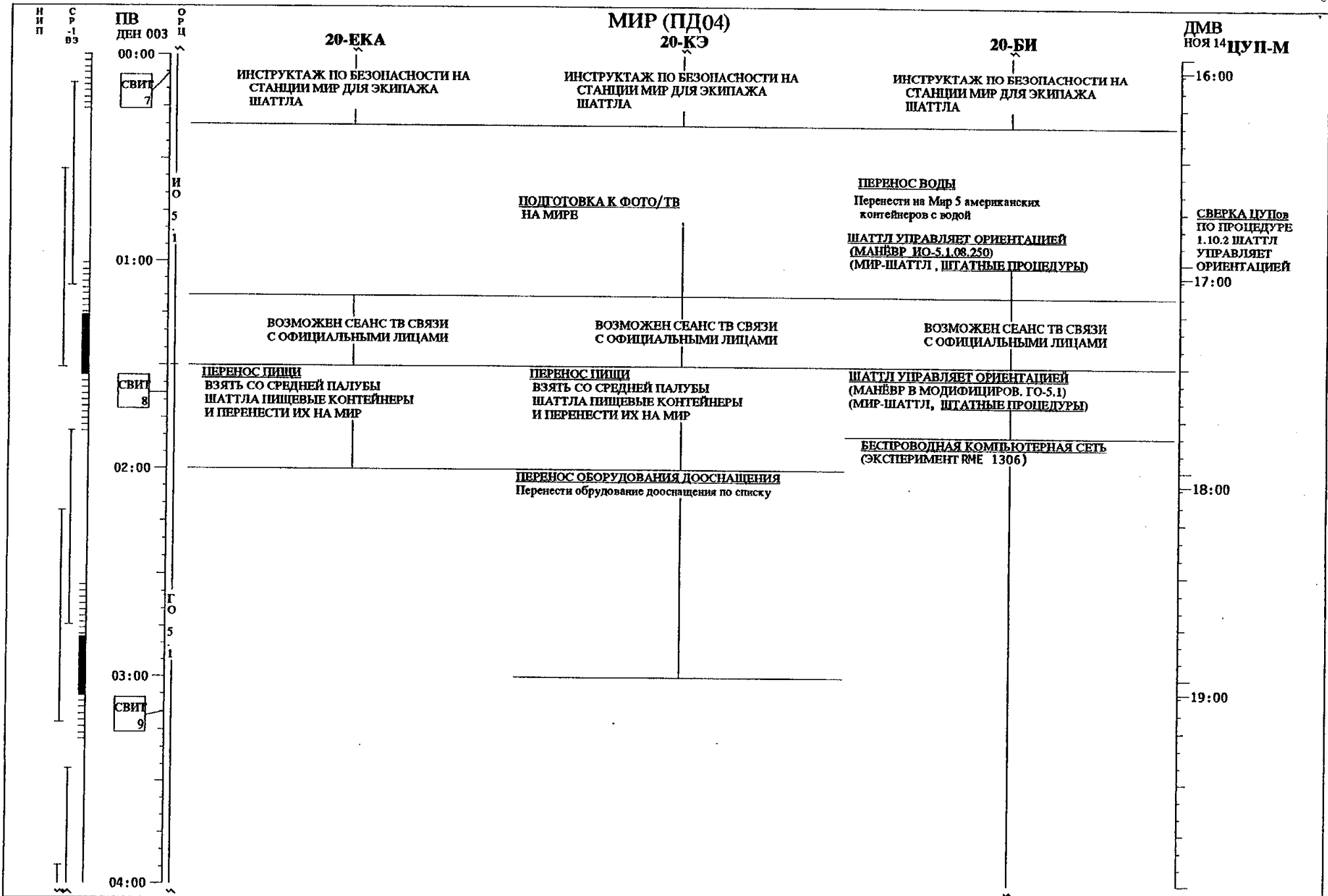
ДМВ
Ноя 14 ЦУП-Х

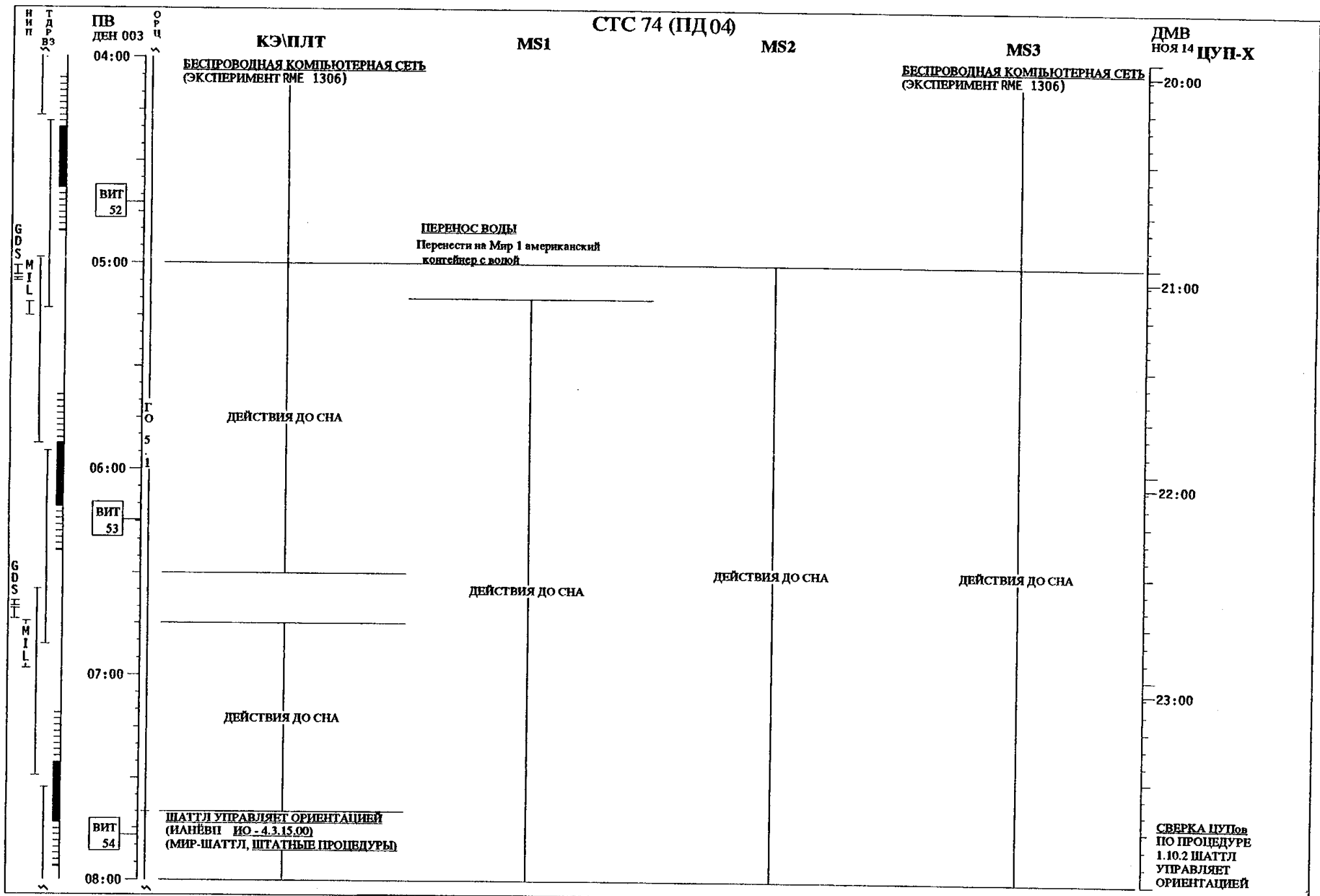
16:00

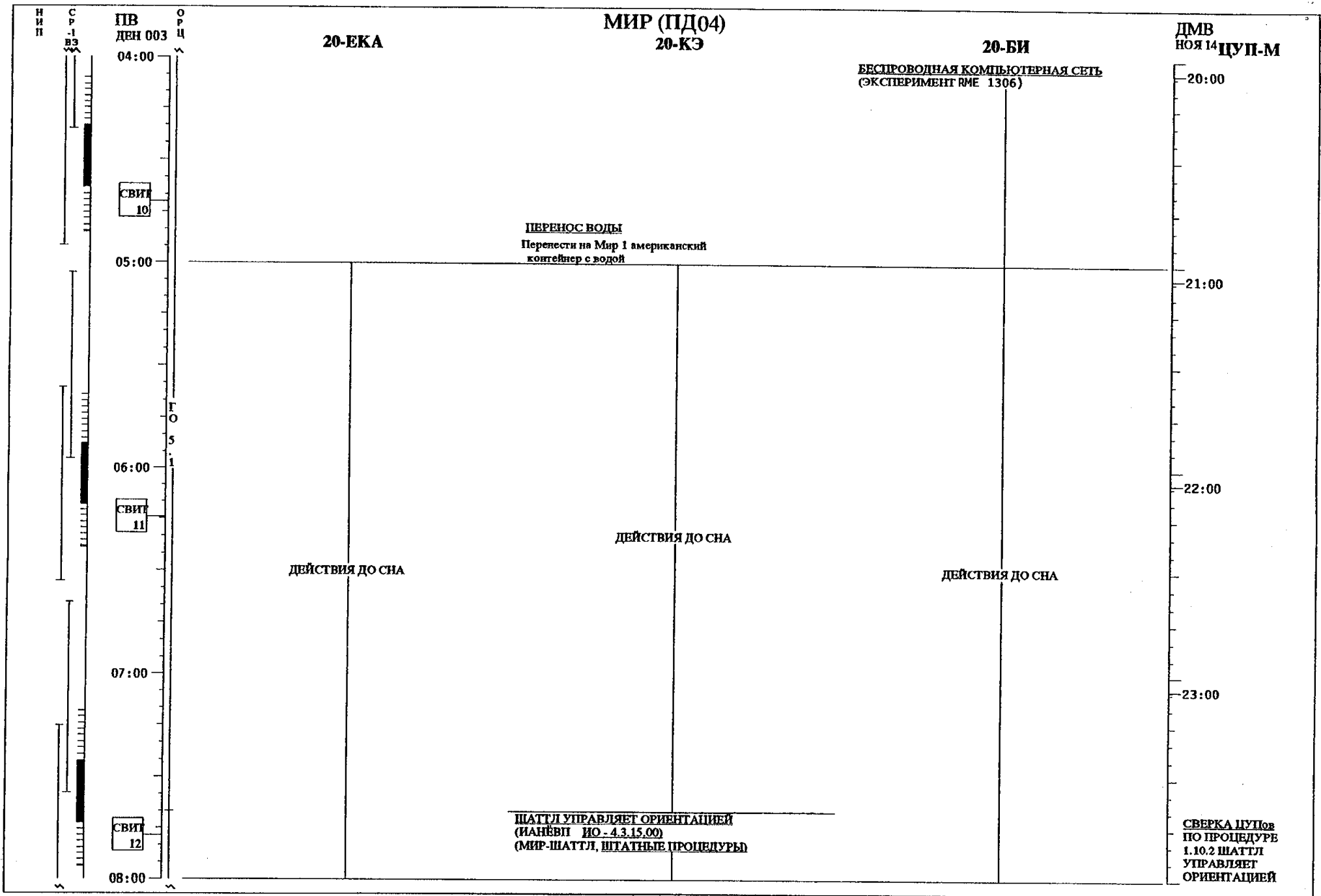
СВЕРКА ЦУПов
ПО ПРОЦЕДУРЕ
1.10.2 ШАТТЛ
УПРАВЛЯЕТ
ОРИЕНТАЦИЕЙ
17:00

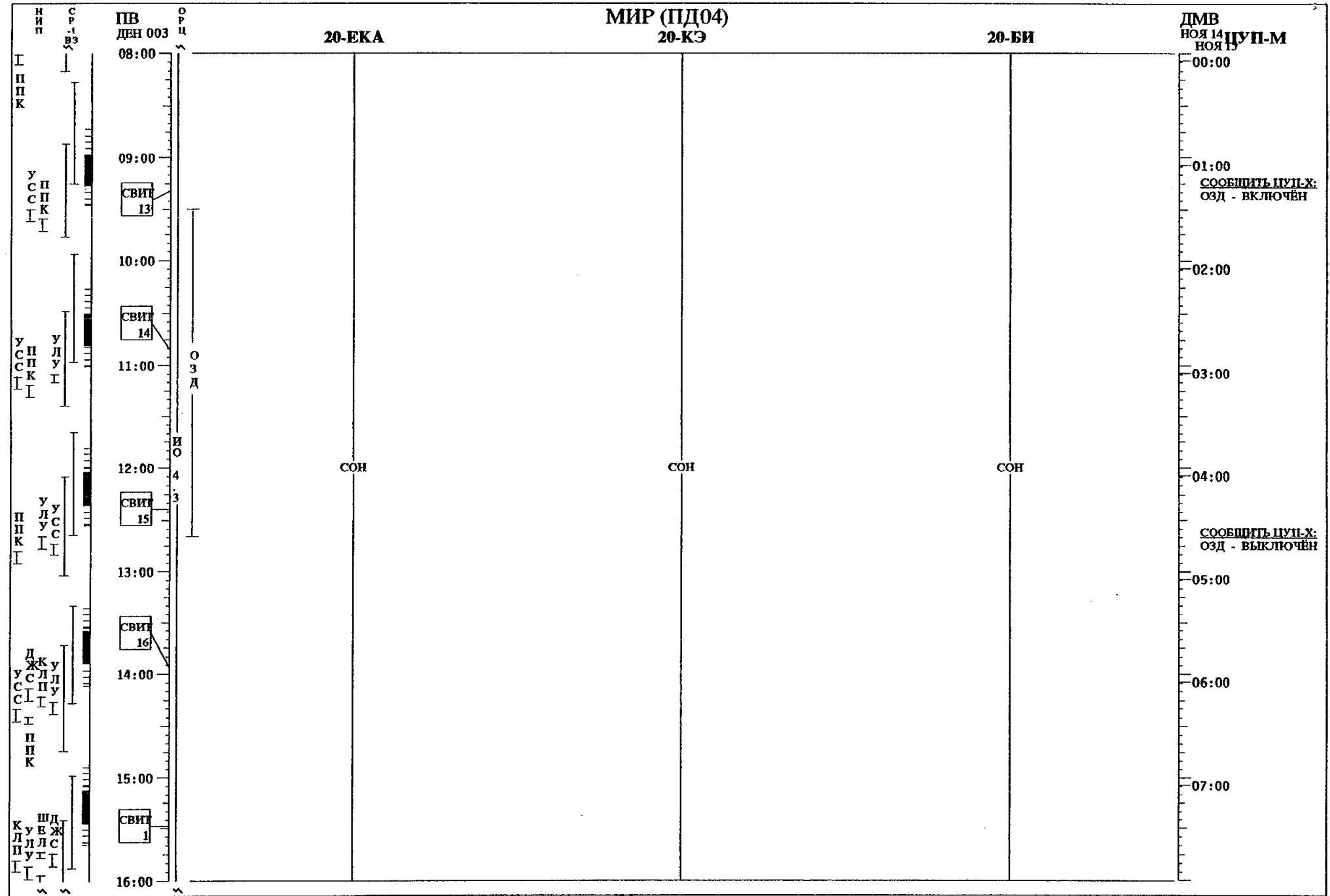
18:00

19:00









		СТС 74 (ПД05)				ДМВ Ноя 15 ЦУП-Х	
ПВ ДЕН 003		КЭПЛТ	MS1	MS2	MS3		
Н И П Т Д Р В З 16:00 17:00 18:00 19:00 20:00	О Р Ц 3 5 1 И О 5 1 И О 5 1	ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ (МАНЕВР ИО-5.1.08.00) (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)		ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА	08:00 СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.10.2 ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ
	ВИТ 60	ЗАКРЫТИЕ ЛЮКА ПЕРЕД СНОМ ЭКИПАЖА (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)	ДЕЙСТВИЯ ПОСЛЕ СНА		ПОЛОЖЕНИЕ СИСТЕМЫ ДИСТАНЦИОННО УПРАВЛЯЕМОГО МАНИПУЛЯТОРА ДЛЯ ОХЛАЖДЕНИЯ ДАТЧИКОВ УДАРНОГО И ЗАГРЯЗНЯЮЩЕГО ВОЗДЕЙСТВИЯ ГАЗОВЫХ СТРУЙ		09:00 СВЕРКА ЦУПов О РАЗРЕШЕНИИ НА ИСПЫТАНИЕ ОДРСУ
	ВИТ 61	ИСПЫТАНИЯ В ДИНАМИЧЕСКОМ РЕЖИМЕ (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ) Начать включение двигателей не ранее, чем при НС через ШЛК (17:17 по ПВ)			ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА	
		ОТКРЫТИЕ ЛЮКА ПОСЛЕ СНА ЭКИПАЖА (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)					10:00 СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.9.2 МИР ПРИНИМАЕТ УПРАВЛЕНИЕ ОРИЕНТАЦИЕЙ
		МИР ПРИНИМАЕТ УПРАВЛЕНИЕ ОРИЕНТАЦИЕЙ (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)					11:00
		ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА		
		ИНСТРУКТАЖ ПО БЕЗОПАСНОСТИ НА ШАТТЛЕ ДЛЯ ЭКИПАЖА МИР-20					

		МИР (ПД05) 20-КЭ		20-БИ		ДМВ НОЯ 15 ЦУП-М	
ПВ ден 003 16:00 17:00 18:00 19:00 20:00	И О 5 1 И О 5 1	20-ЕКА	ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ (МАНЕВР ИО-5.1.06.00) (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)			08:00	СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.10.2 ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ
			ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА		
		СВИТ 2	ЗАКРЫТИЕ ЛЮКА ПЕРЕД СНОМ ЭКИПАЖА (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)	ИСПЫТАНИЯ В ДИНАМИЧЕСКОМ РЕЖИМЕ (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ) Начать включение двигателей не ранее, чем при ИС чкрез ШЛК (17:17 по ПВ)	Солнечные панели модуля Квант-2 зафиксированы в положения +270 градусов	09:00	СВЕРКА ЦУПов О РАЗРЕШЕНИИ НА ИСПЫТАНИЕ ОДРСУ
			ДЕЙСТВИЯ ПОСЛЕ СНА	ОТКРЫТИЕ ЛЮКА ПОСЛЕ СНА ЭКИПАЖА (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)	ЧЕРЕЗ ПЯТЬ МИНУТ ПОСЛЕ ТОГО, КАК ШАТТЛ ПОДТВЕРДИТ ОКОНЧАНИЕ ИСПЫТАНИЯ ОДРСУ, - ВОЗОБНОВИТЬ РАБОТУ СОСЕ		
		СВИТ 3		ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА	
		ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА		10:00	СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.9.2 МИР ПРИНИМАЕТ УПРАВЛЕНИЕ ОРИЕНТАЦИЕЙ
		ИНСТРУКТАЖ ПО БЕЗОПАСНОСТИ НА ШАТТЛЕ ОТ КОМАНДИРА СТС-74	ИНСТРУКТАЖ ПО БЕЗОПАСНОСТИ НА ШАТТЛЕ ОТ КОМАНДИРА СТС-74	ИНСТРУКТАЖ ПО БЕЗОПАСНОСТИ НА ШАТТЛЕ ОТ КОМАНДИРА СТС-74		11:00	

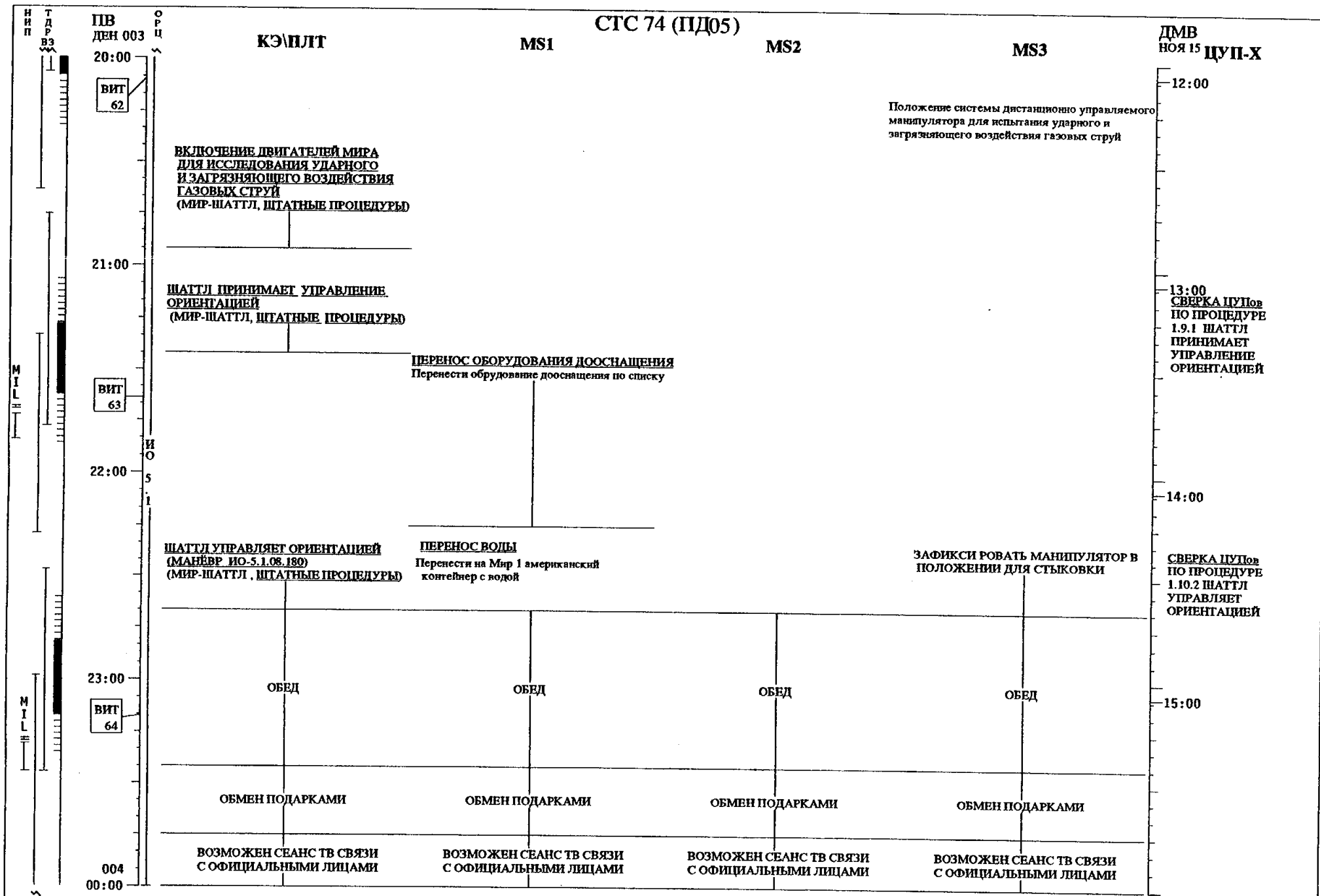
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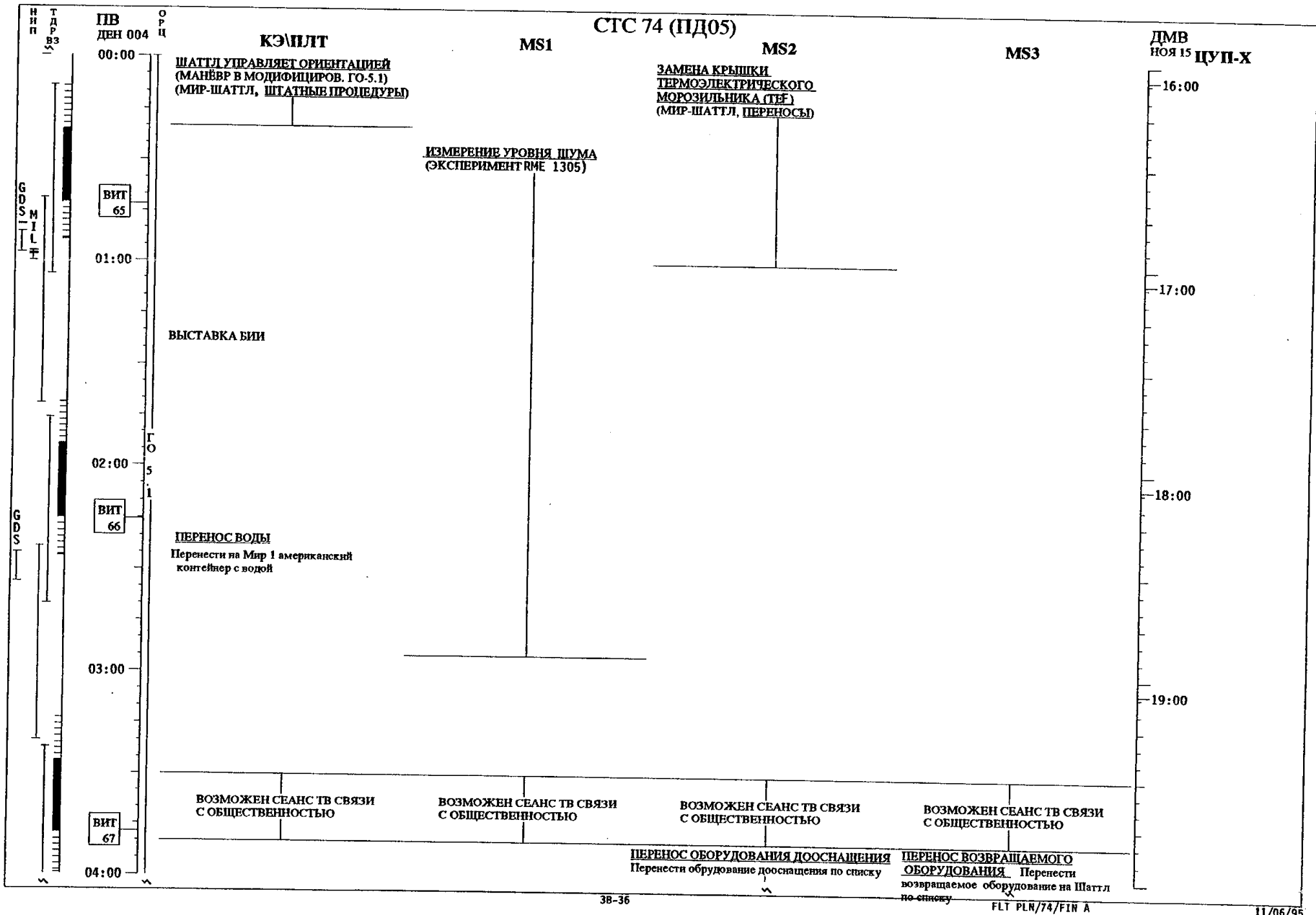
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**МИР (ПД05)
20-КЭ**

20-ЕКА

20-БИ

**ДМВ
НОЯ 15 ЦУП-М**

**ПВ
ДЕН 004**

Н
Н
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00:00
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02:00
03:00
04:00

16:00
17:00
18:00
19:00

ЗАМЕНА КРЫШКИ
ТЕРМОЭЛЕКТРИЧЕСКОГО
МОРОЗИЛЬНИКА (ТФ)
(МИР-ШАТТЛ, ПЕРЕНОСЫ)

ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ
(МАНВР В МОДИФИЦИРОВ. ГО-5.1)
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

ИЗМЕРЕНИЕ УРОВНЯ ШУМА
(ЭКСПЕРИМЕНТ RME 1305)

СВИТ
7

СВИТ
8

СВИТ
9

ПЕРЕНОС ВОДЫ
Перенести на Мир 1 американский
контейнер с водой

ПОДГОТОВКА К ФОТО/ТВ
НА МИРЕ

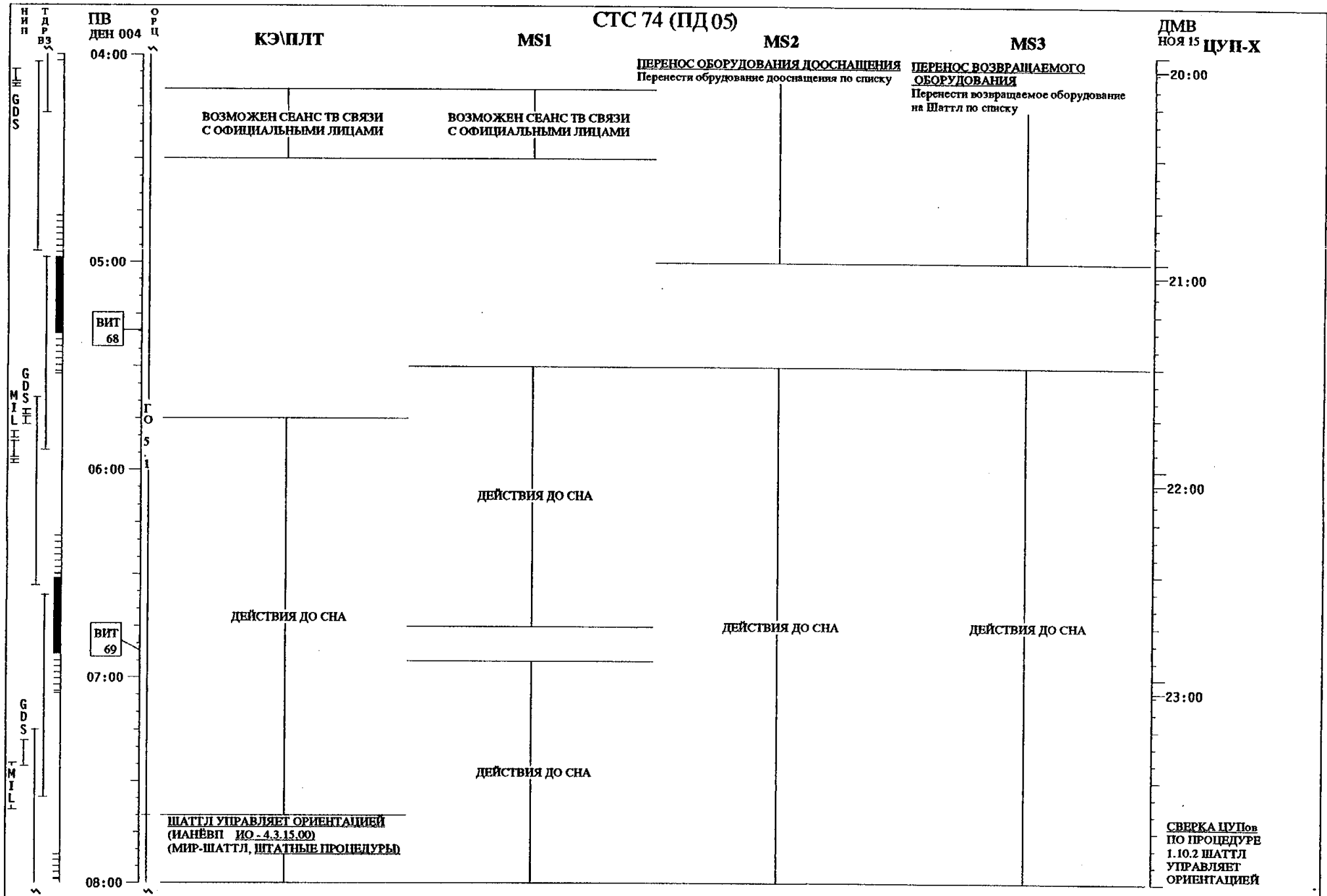
ВОЗМОЖЕН СЕАНС ТВ СВЯЗИ
С ОБЩЕСТВЕННОСТЬЮ

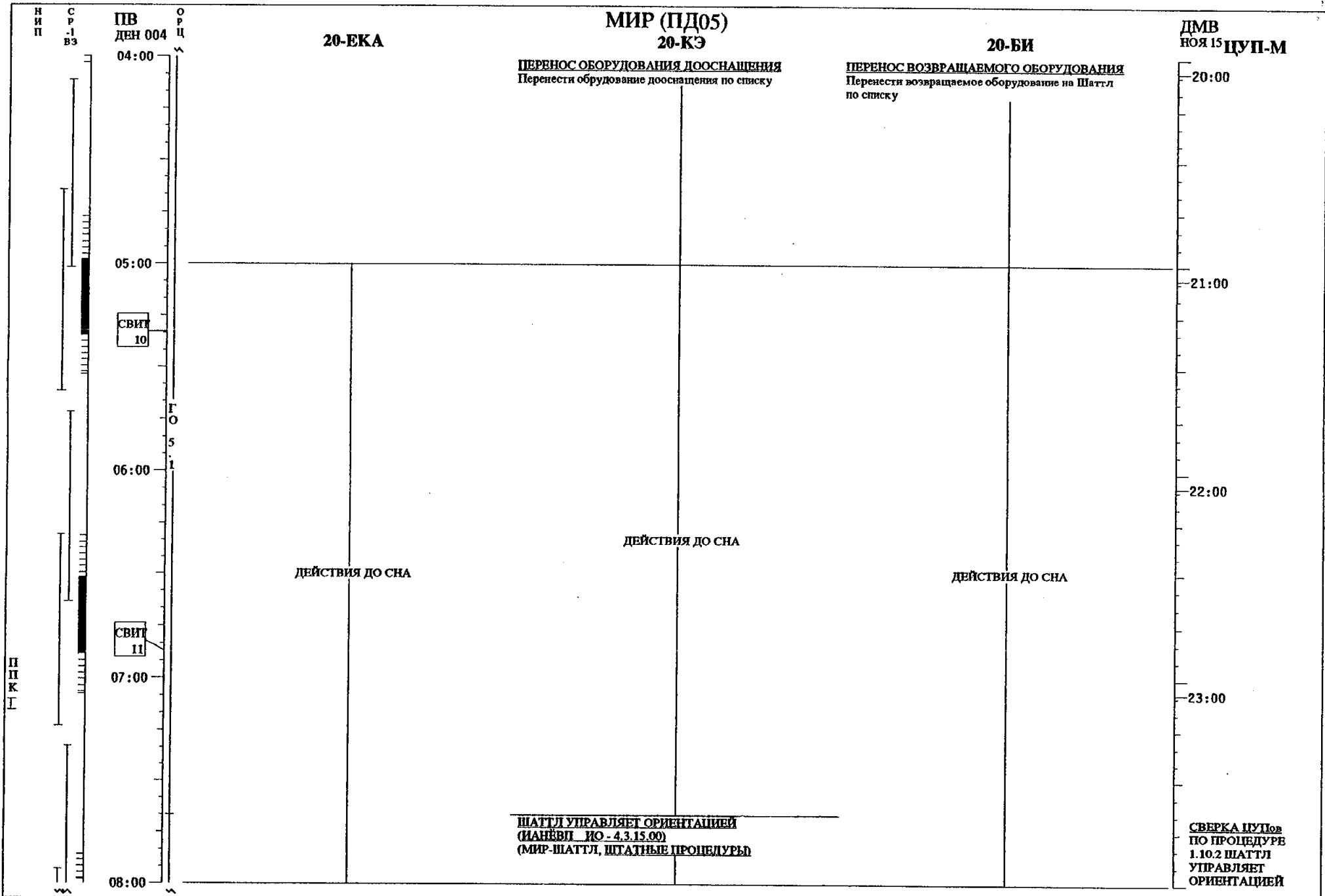
ВОЗМОЖЕН СЕАНС ТВ СВЯЗИ
С ОБЩЕСТВЕННОСТЬЮ

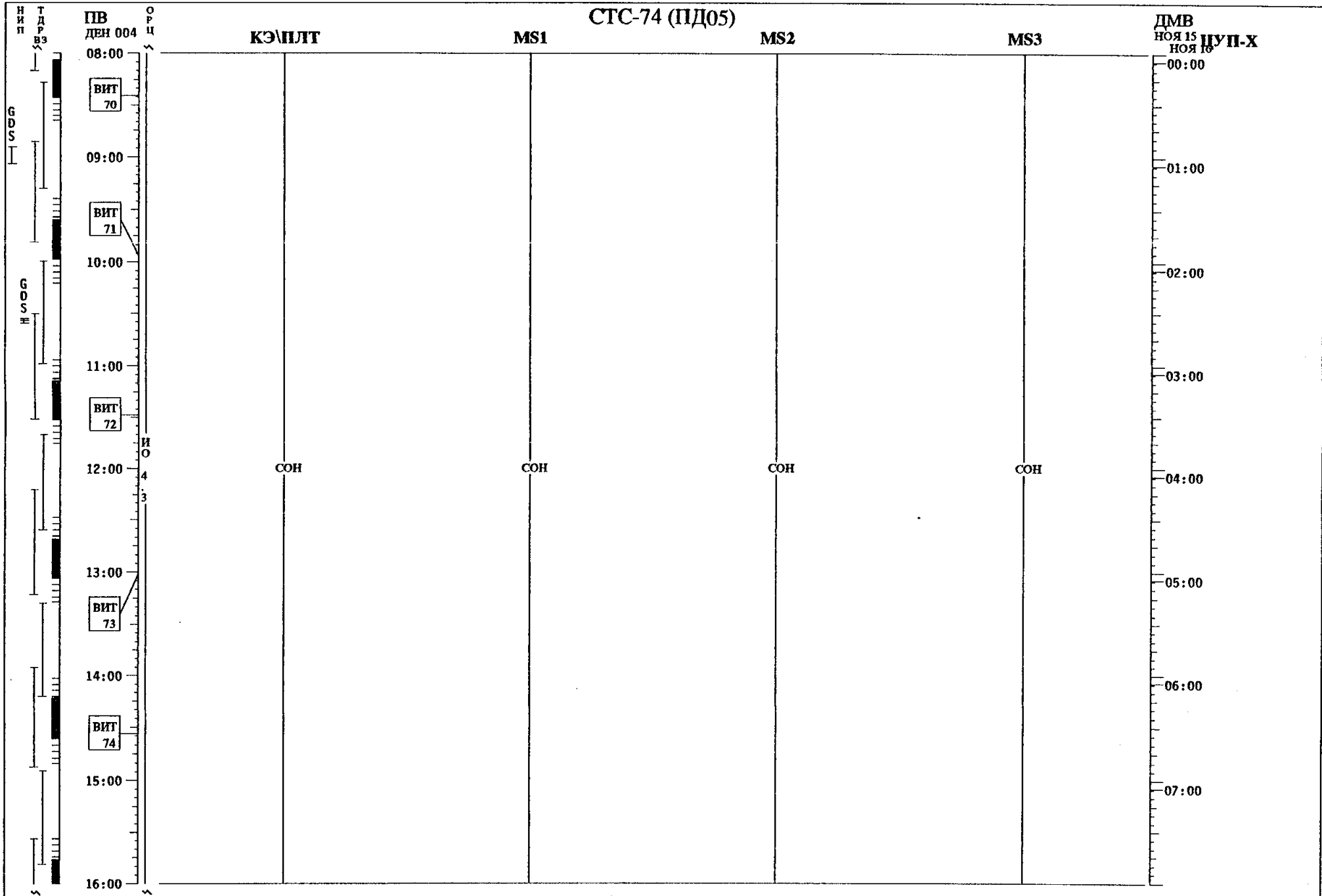
ВОЗМОЖЕН СЕАНС ТВ СВЯЗИ
С ОБЩЕСТВЕННОСТЬЮ

ПЕРЕНОС ОБОРУДОВАНИЯ ДООСНАЩЕНИЯ
Перенести оборудование дооснащения по списку

ПЕРЕНОС ВОЗВРАЩАЕМОГО ОБОРУДОВАНИЯ
Перенести возвращаемое оборудование на Шаттл
по списку







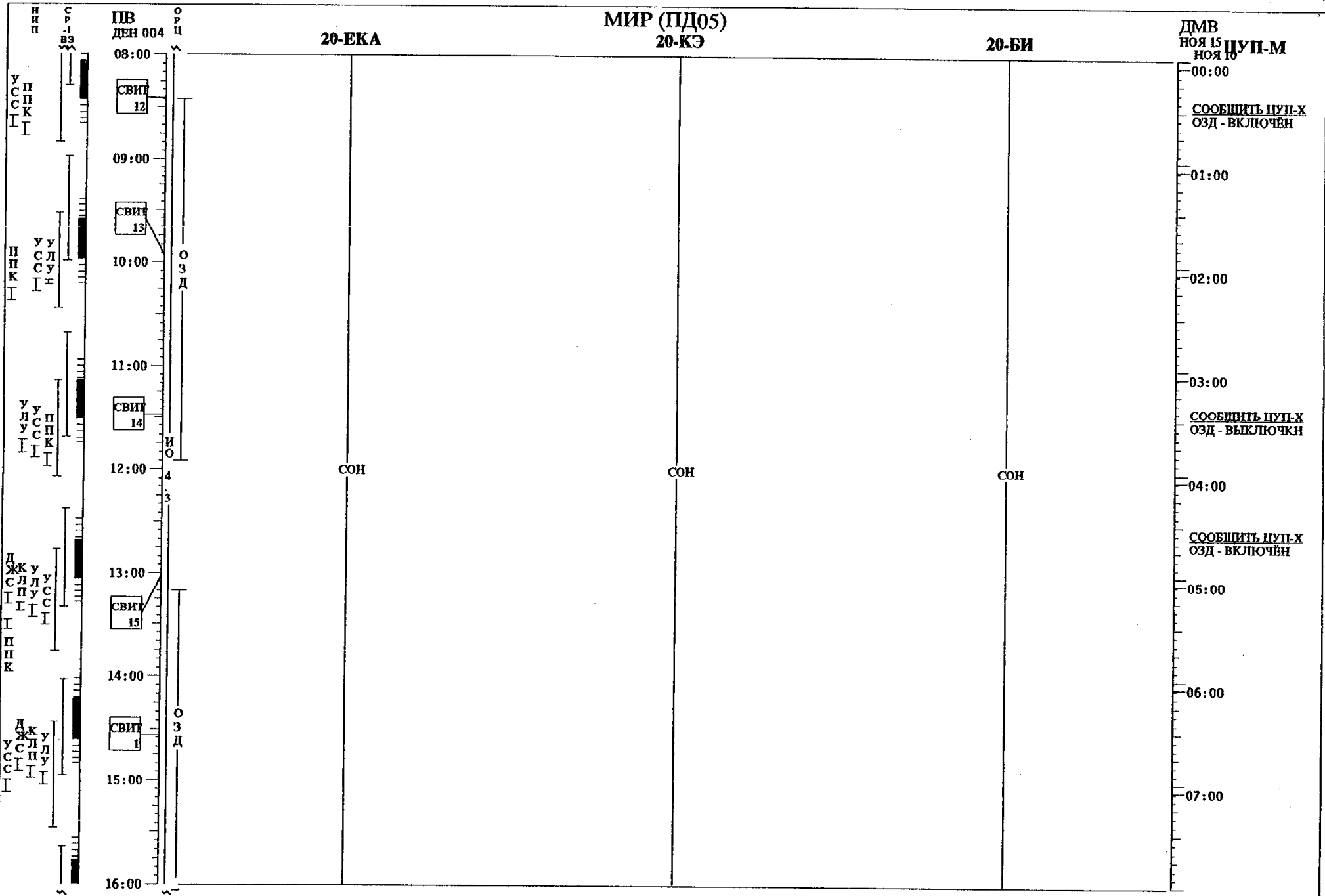
МИР (ПД05)
20-КЭ

20-ЕКА

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ДМВ
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НОЯ 16

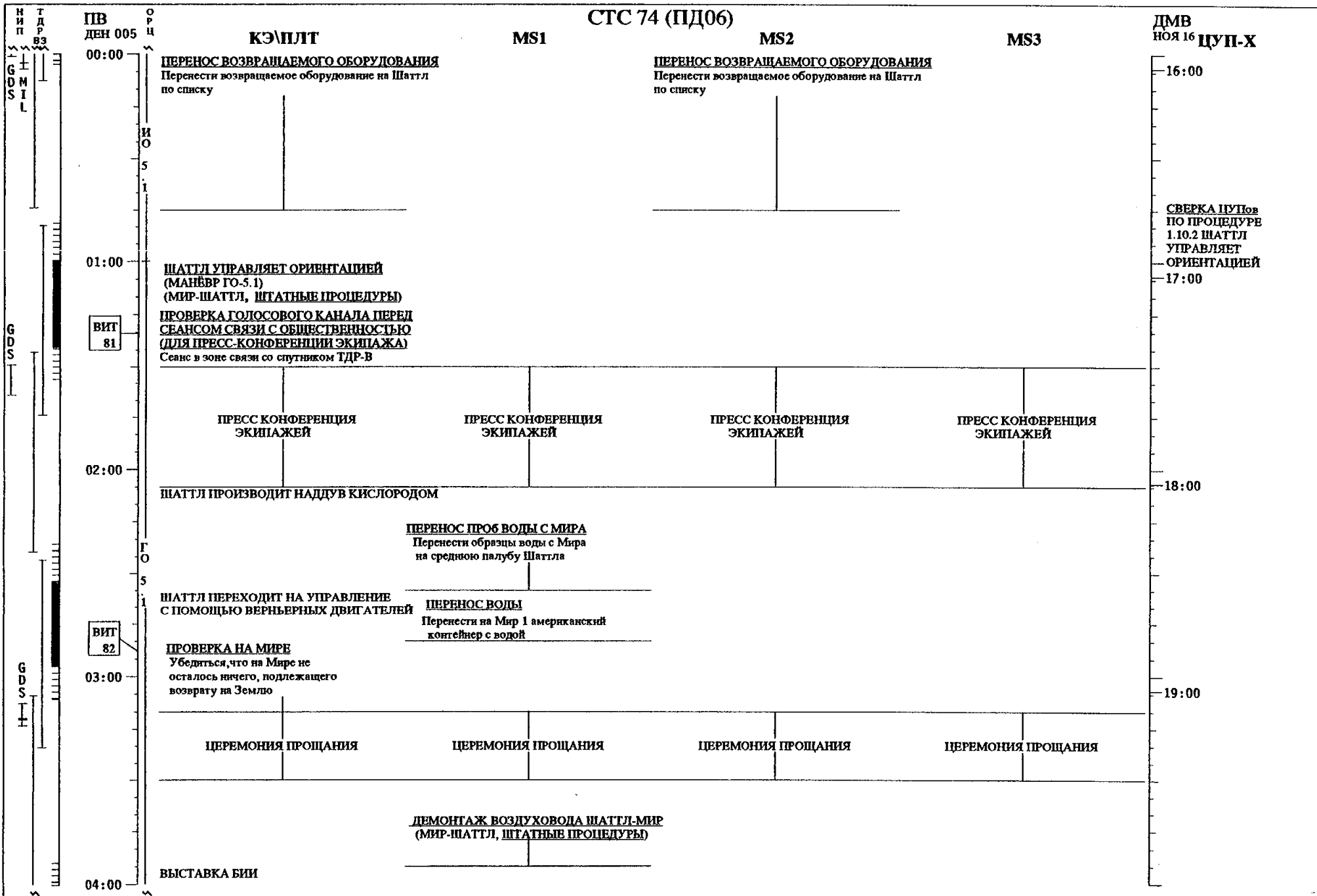
ПУП-М



		СТС 74 (ПД06)				ДМВ Ноя 16 ЦУП-Х	
КЭПЛТ		MS1	MS2	MS3			
ПВ ДЕН 004 ВИТ 75 16:00 ВИТ 76 17:00 ВИТ 77 18:00 19:00 20:00	МИР ПРИНИМАЕТ УПРАВЛЕНИЕ ОРИЕНТАЦИЕЙ (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)		ПРИМЕЧАНИЕ: Во время манёвра Мира свести к минимуму действия экипажа, связанные с активным движением			08:00 СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.9.2 МИР ПРИНИМАЕТ УПРАВЛЕНИЕ ОРИЕНТАЦИЕЙ	
	МИР УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ (ГО 4.1) (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)					СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.10.1 МИР УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ	
	НАЧАТЬ СБРОС ОТРАБОТАННОЙ ВОДЫ С ШАТТЛА					09:00 СВЕРКА ЦУПов О РАЗРЕШЕНИИ НА СБРОС ОТРАБОТАННОЙ ВОДЫ С ШАТТЛА	
	ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА	ДЕЙСТВИЯ ПОСЛЕ СНА		10:00 СООБЩИТЬ ЦУП-М СБРОС ВОДЫ ЗАКОНЧЕН	
	ЗАКОНЧИТЬ СБРОС ОТРАБОТАННОЙ ВОДЫ С ШАТТЛА ШАТТЛ ПРИНИМАЕТ УПРАВЛЕНИЕ ОРИЕНТАЦИЕЙ (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)			ШАТТЛ ПРОИЗВОДИТ НАДУВ КИСЛОРОДОМ		СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.9.1 ШАТТЛ ПРИНИМАЕТ УПРАВЛЕНИЕ ОРИЕНТАЦИЕЙ СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.10.2 ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ 11:00	
ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ (МАНЁВР ИО-5.1.08.00) (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)							
ВОЗМОЖЕН СЕАНС ТВ СВЯЗИ С ОФИЦИАЛЬНЫМИ ЛИЦАМИ	ВОЗМОЖЕН СЕАНС ТВ СВЯЗИ С ОФИЦИАЛЬНЫМИ ЛИЦАМИ	ВОЗМОЖЕН СЕАНС ТВ СВЯЗИ С ОФИЦИАЛЬНЫМИ ЛИЦАМИ	ВОЗМОЖЕН СЕАНС ТВ СВЯЗИ С ОФИЦИАЛЬНЫМИ ЛИЦАМИ	ВОЗМОЖЕН СЕАНС ТВ СВЯЗИ С ОФИЦИАЛЬНЫМИ ЛИЦАМИ			
ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА			

		СТС 74 (ПД 06)					
ПВ ДЕН 004		КЭ\ПЛТ	MS1	MS2	MS3	ДМВ НОЯ 16 ЦУП-Х	
20:00		ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	ПЛАН НА СУТКИ РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	12:00	
ВИТ 78			ОТБОР ПРОБ ВОДЫ НА ОС МИР (НА ФАЗЕ СТЫКОВИ С КК ШАТТЛ) (МИР-ШАТТЛ, ПЕРЕНОСЬ) Отнести на Мир укладку для забора проб воды	ПЕРЕНОС ВОЗВРАЩАЕМОГО ОБОРУДОВАНИЯ Перенести возвращаемое оборудование на Шаттл по списку	ПЕРЕНОС ВОЗВРАЩАЕМОГО ОБОРУДОВАНИЯ Перенести возвращаемое оборудование на Шаттл по списку		
21:00			ПЕРЕНОС ВОДЫ Перенести на Мир 1 американский контейнер с водой			13:00	
			ПЕРЕНОС ОБОРУДОВАНИЯ ЕКА (МИР-ШАТТЛ, ПЕРЕНОСЬ) См. инвентарный перечень				
22:00		ЦАП: СВОБОДНЫЙ ДРЕЙФ				14:00	
ВИТ 79				ПЕРЕНОС АЗОТНОГО МОРОЗИЛЬНИКА (МИР-ШАТТЛ, ПЕРЕНОСЬ) См. инвентарный перечень	ПЕРЕНОС АЗОТНОГО МОРОЗИЛЬНИКА (МИР-ШАТТЛ, ПЕРЕНОСЬ) См. инвентарный перечень		
		ШАТТЛ ПЕРЕХОДИТ НА УПРАВЛЕНИЕ С ПОМОЩЬЮ ВЕРНЬЕРНЫХ ДВИГАТЕЛЕЙ					
23:00		ШАТТЛ - В РЕЖИМЕ ALT DAP				15:00	
		ОБЕД	ОБЕД	ОБЕД	ОБЕД		
ВИТ 80							
00:00							

НИИ С Р - 1 ВЗ	ПВ ДЕН 004	О Р Ц	МИР (ПД06) 20-КЭ	20-БИ	ДМВ НОЯ 16 ЦУП-М
	20:00		<u>ПЛАН НА СУТКИ</u> РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	<u>ПЛАН НА СУТКИ</u> РАССМОТРЕНИЕ ИЗМЕНЕНИЙ К ПЛАНУ СОВМЕСТНОГО ПОЛЕТА	12:00
		О З Д	<u>ОТБОР ПРОБ ВОДЫ НА ОС МИР</u> (НА ФАЗЕ СТЫКОВКИ С КК ШАТТЛ) (МИР-ШАТТЛ, ПЕРЕНОСЬ) Отнести на Мир укладку для забора проб воды	<u>ПЕРЕНОС ВОЗВРАЩАЕМОГО ОБОРУДОВАНИЯ</u> Перенести возвращаемое оборудование на Шаттл по списку	
С Ш П Е Л Д Ж С И	СВИТ 5		<u>ПЕРЕНОС ВОДЫ</u> Перенести на Мир 1 американский контейнер с водой		
	21:00		<u>ОТБОР ПРОБ ВОДЫ НА МИРЕ</u> (НА ФАЗЕ СТЫКОВКИ С ШАТТЛОМ) (МИР-ШАТТЛ, ПЕРЕНОСЬ) Отобрать по одной пробе горячей, холодной воды и воды из СВО-3В		13:00 СООБЩИТЬ ПУТЬ-Х. ОЗД - ВЫКЛЮЧЕН
			<u>ПЕРЕНОС ОБОРУДОВАНИЯ ЕКА</u> (МИР-ШАТТЛ, ПЕРЕНОСЬ) См. инвентарный перечень		
	22:00	И О	КОМАНДА ШАТТЛУ НА ПЕРЕХОД В СВОБОДНЫЙ ДРЕЙФ	Солнечные панели Кванта-2 зафиксированы в положении +270 градусов; Мир - в свободном дрейфе	
	СВИТ 6		ШАТТЛ ПЕРЕХОДИТ НА УПРАВЛЕНИЕ С ПОМОЩЬЮ ВЕРНЬЕРНЫХ ДВИГАТЕЛЕЙ	<u>ПЕРЕНОС АЗОТНОГО МОРОЗИЛЬНИКА</u> (МИР-ШАТТЛ, ПЕРЕНОСЬ) См. инвентарный перечень	14:00
			Через пять минут после выхода из тени возобновить работу СОСБ		
	23:00		<u>ОТБОР ПРОБ ВОДЫ НА МИРЕ</u> (НА ФАЗЕ СТЫКОВКИ С ШАТТЛОМ) (МИР-ШАТТЛ, ПЕРЕНОСЬ) Отобрать по одной пробе горячей, холодной воды и воды из СВО-3В		15:00
			ШАТТЛ - В РЕЖИМЕ ALT DAP		
			ОБЕД	ОБЕД	
			ОБЕД	ОБЕД	
	СВИТ 7				
	00:00				



ДМВ
Ноя 16
ЦУП-Х

16:00

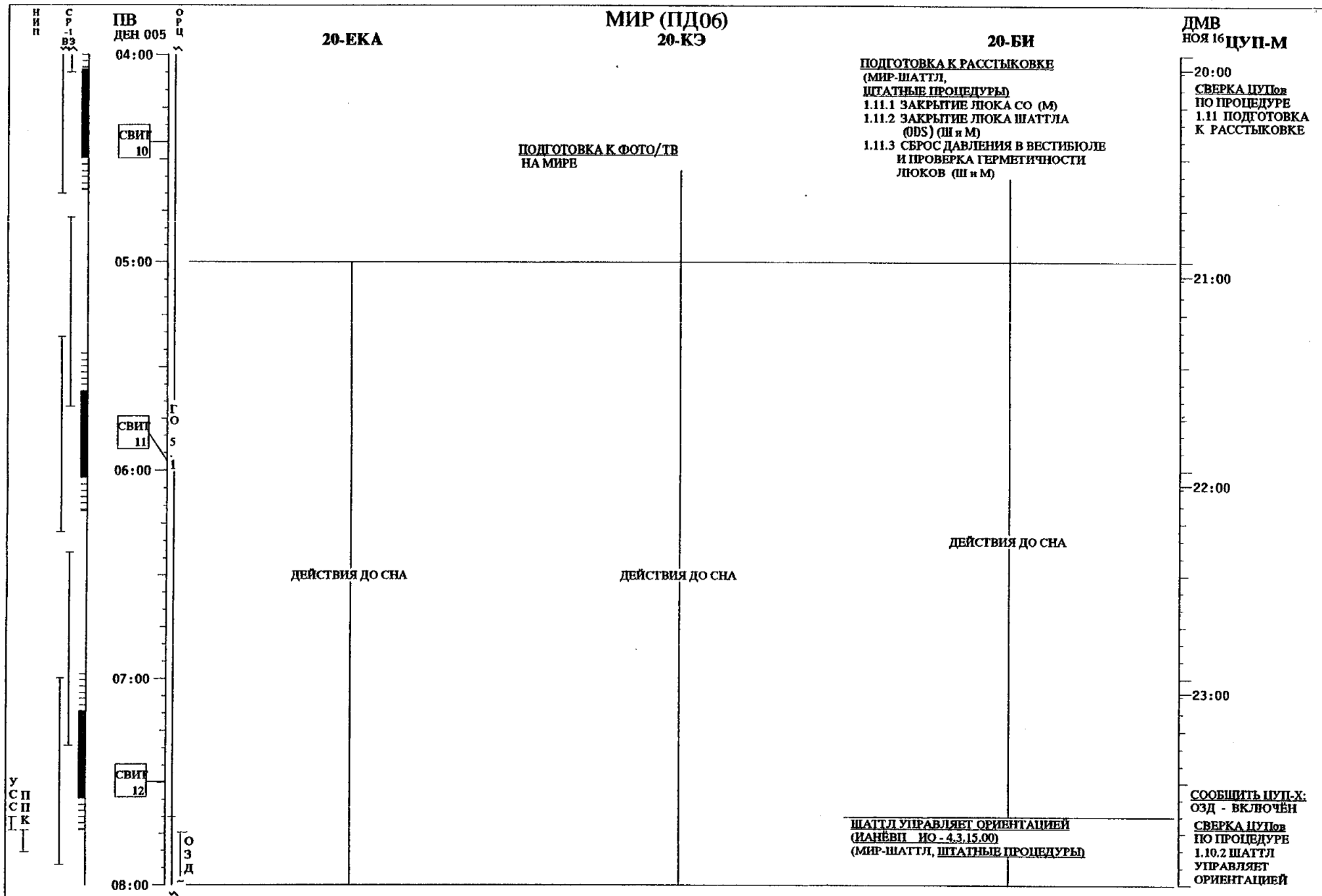
СВЕРКА ПУТОВ
ПО ПРОЦЕДУРЕ
1.10.2 ШАТТЛ
УПРАВЛЯЕТ
ОРИЕНТАЦИЕЙ

17:00

18:00

19:00

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МИР (ПД06)
20-КЭ

20-БИ

ДМВ
НОЯ 16 ЦУП-М

ПОДГОТОВКА К РАССТЫКОВКЕ
(МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)
1.11.1 ЗАКРЫТИЕ ЛЮКА СО (М)
1.11.2 ЗАКРЫТИЕ ЛЮКА ШАТТЛА (ОДС) (Ш и М)
1.11.3 СБРОС ДАВЛЕНИЯ В ВЕСТИБЮЛЕ И ПРОВЕРКА ГЕРМЕТИЧНОСТИ ЛЮКОВ (Ш и М)

ПОДГОТОВКА К ФОТО/ТВ НА МИРЕ

20:00
СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.11 ПОДГОТОВКА К РАССТЫКОВКЕ

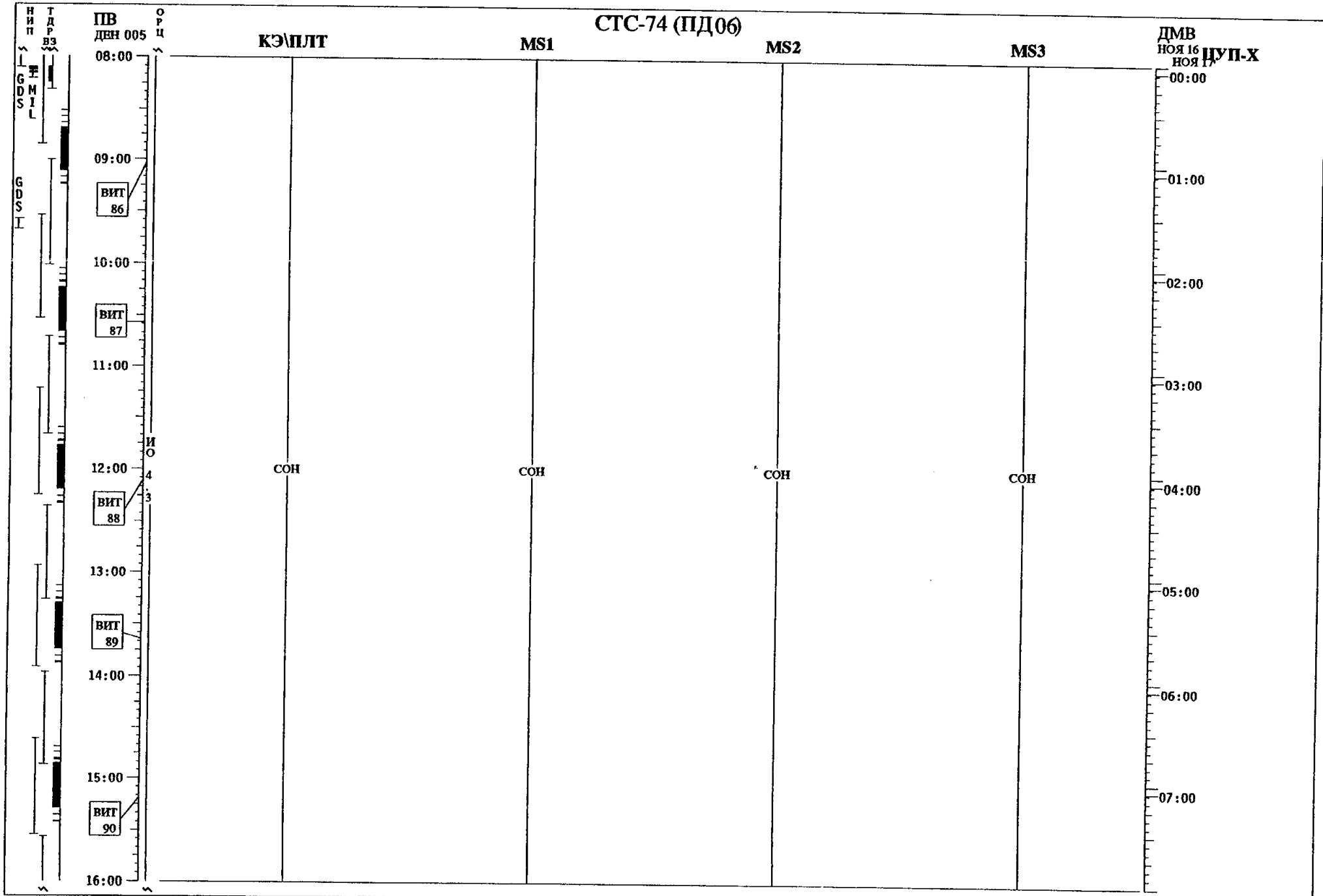
ДЕЙСТВИЯ ДО СНА

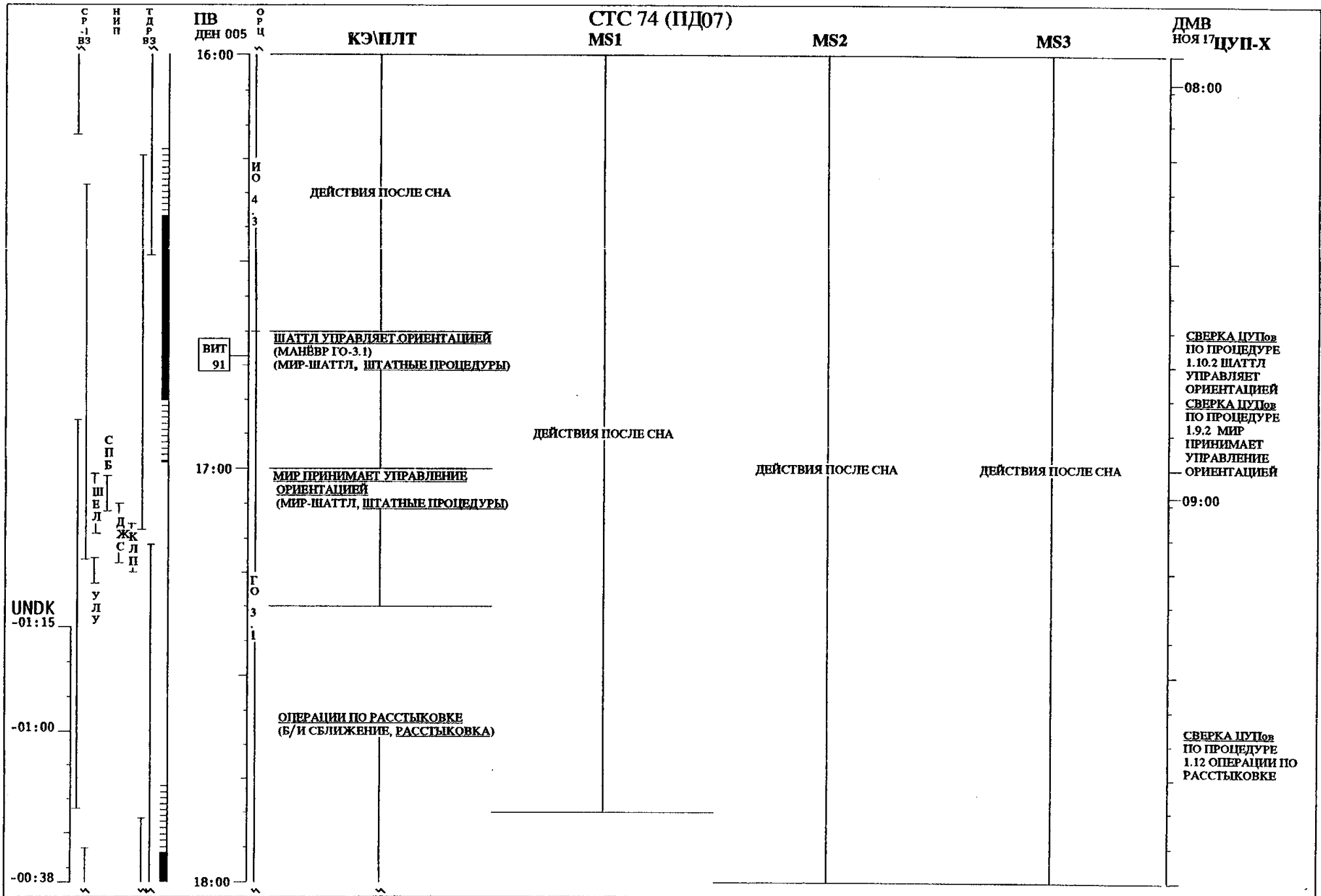
ДЕЙСТВИЯ ДО СНА

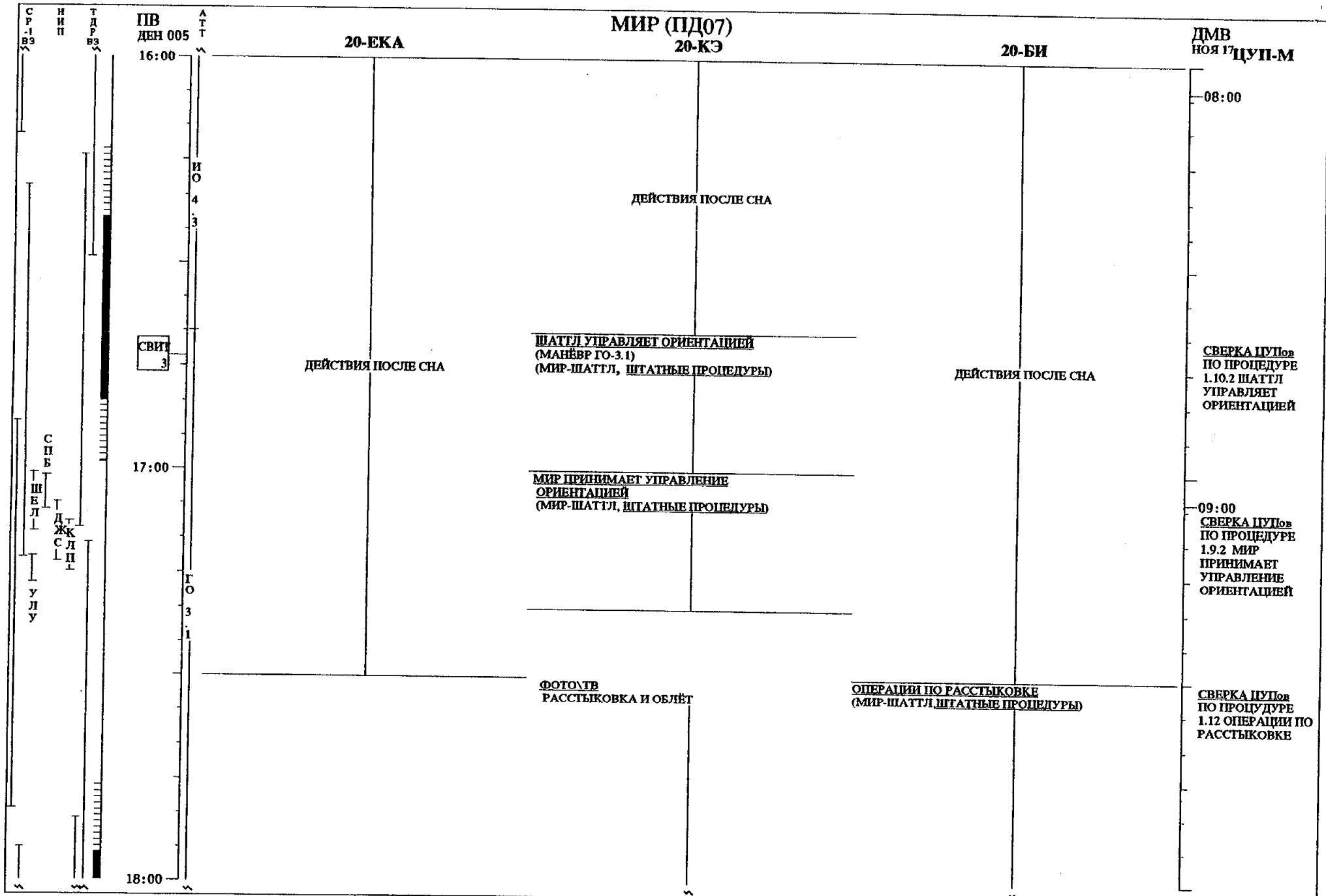
ДЕЙСТВИЯ ДО СНА

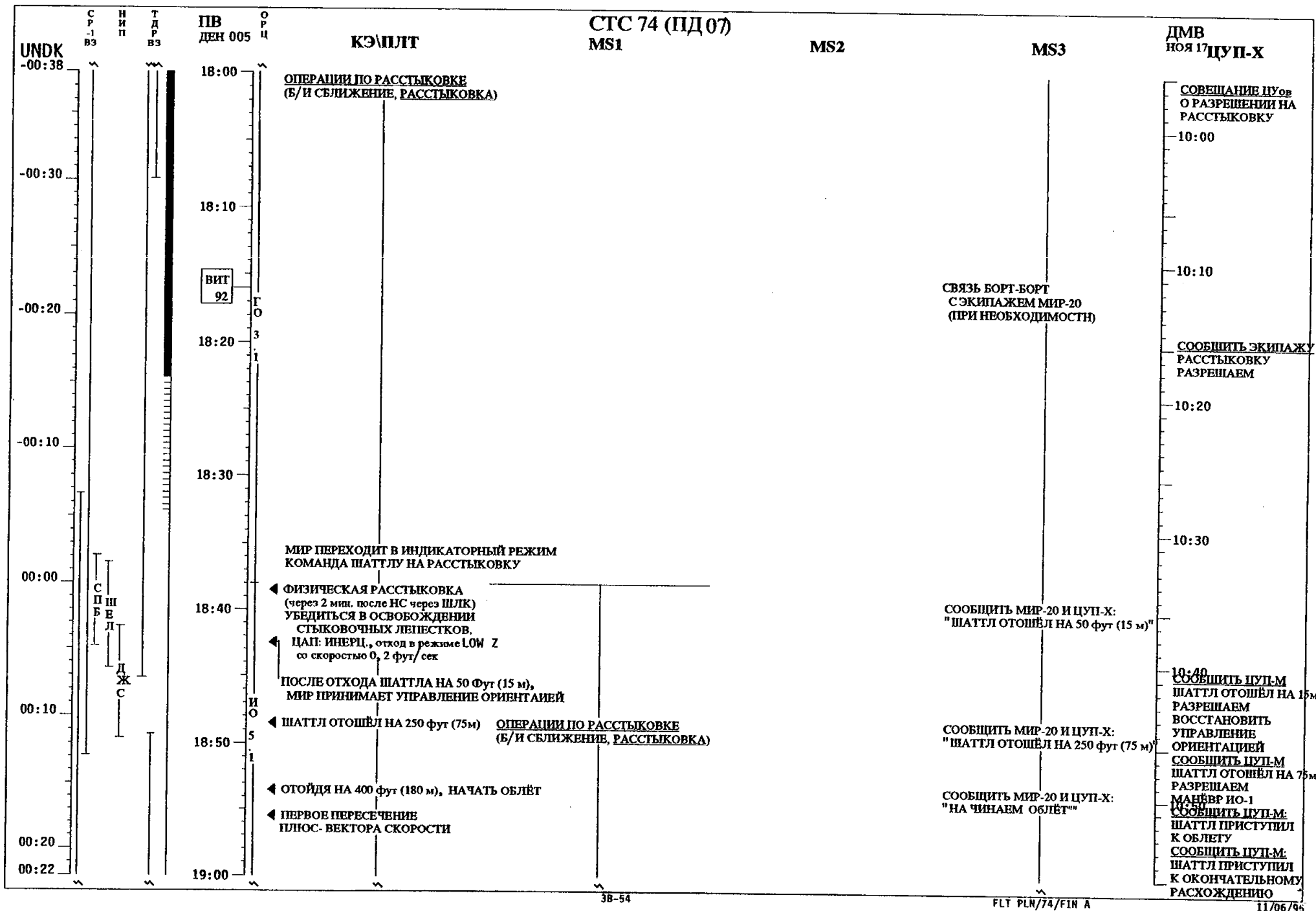
ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ (ИАНЕВЦ ИО - 4.3.15.00) (МИР-ШАТТЛ, ШТАТНЫЕ ПРОЦЕДУРЫ)

СООБЩИТЬ ЦУП-Х: ОЗД - ВКЛЮЧЕН
СВЕРКА ЦУПов ПО ПРОЦЕДУРЕ 1.10.2 ШАТТЛ УПРАВЛЯЕТ ОРИЕНТАЦИЕЙ









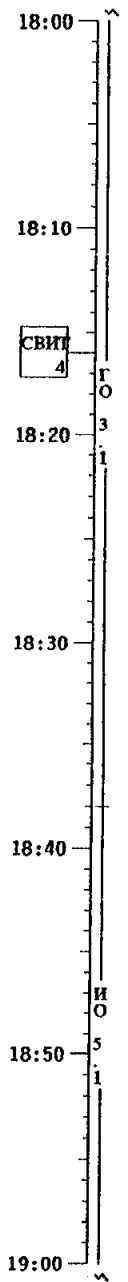
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Т Д Р
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ПВ
ДЕН 005
А Т Т

20-ЕКА

МИР (ПД07)
20-КЭ

20-БИ

ДМВ
Ноя 17
ЦУП-М



ФОТОУГ
РАССТЫКОВКА И ОБЛЁТ

ОПЕРАЦИИ ПО РАССТЫКОВКЕ
(МИР-ШАТТЛ ПРАВИЛЬНЫЕ ПРОЦЕДУРЫ)

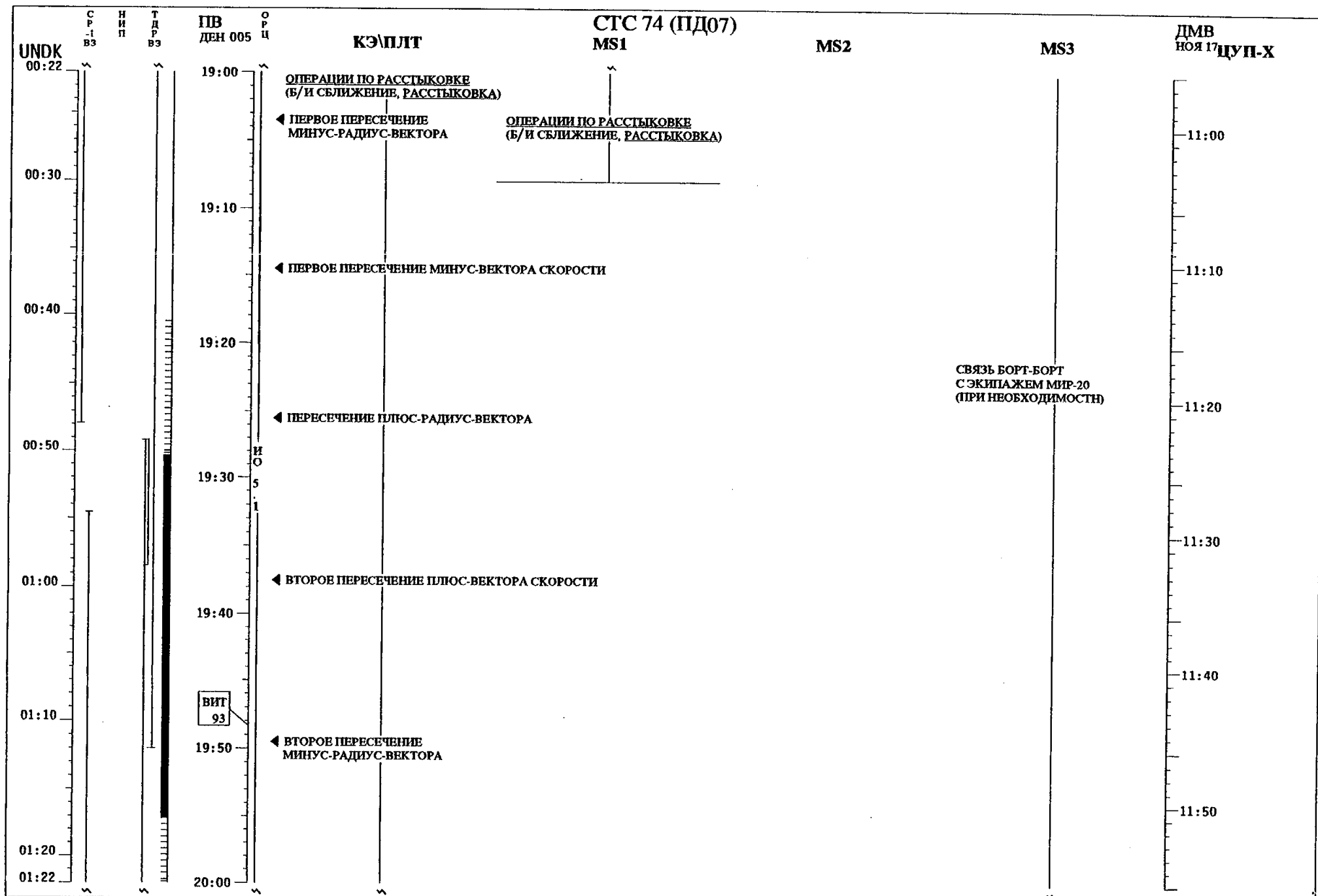


МИР ПЕРЕХОДИТ В ИНДИКАТОРНЫЙ РЕЖИМ
КОМАНДА ШАТТЛУ НА РАССТЫКОВКУ

ФИЗИЧЕСКАЯ РАССТЫКОВКА (НАД ШЛК + 2 МИН)

КОГДА ПО ШАТТЛ ОТОШЁЛ НА
50 ФУТОВ (15 М), МИР ВОССТАНАВЛИВАЕТ
ОРИЕНТАЦИЮ ГО- (ПО)

Когда до Шаттла 250 фут (75м)
МИР СТРОИТ ОРИЕНТАЦИЮ ИО-1



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-1
ВЗ

Н
И
П

Т
Д
Р
ВЗ

ПВ
ДЕН 005

А
Т

20-ЕКА

МИР (ПД07)
20-КЭ

20-БИ

ДМВ
Ноя 17
ЦУП-М

19:00

19:10

19:20

19:30

19:40

19:50

20:00

СВИТ
5

ФОТОУТВ
РАССТЫКОВКА И ОБЛЁТ

Когда до Шаттла 250 футов (75м)
МИР СТРОИТ ОРИЕНТАЦИЮ ИО-1

НАБЛЮДЕНИЕ ОБЛЁТА
ТВ И ФОТОСЪЁМКА И СВЯЗЬ
БОРТ-БОРТ С ШАТТЛОМ
(до потери связи)

11:00

11:10

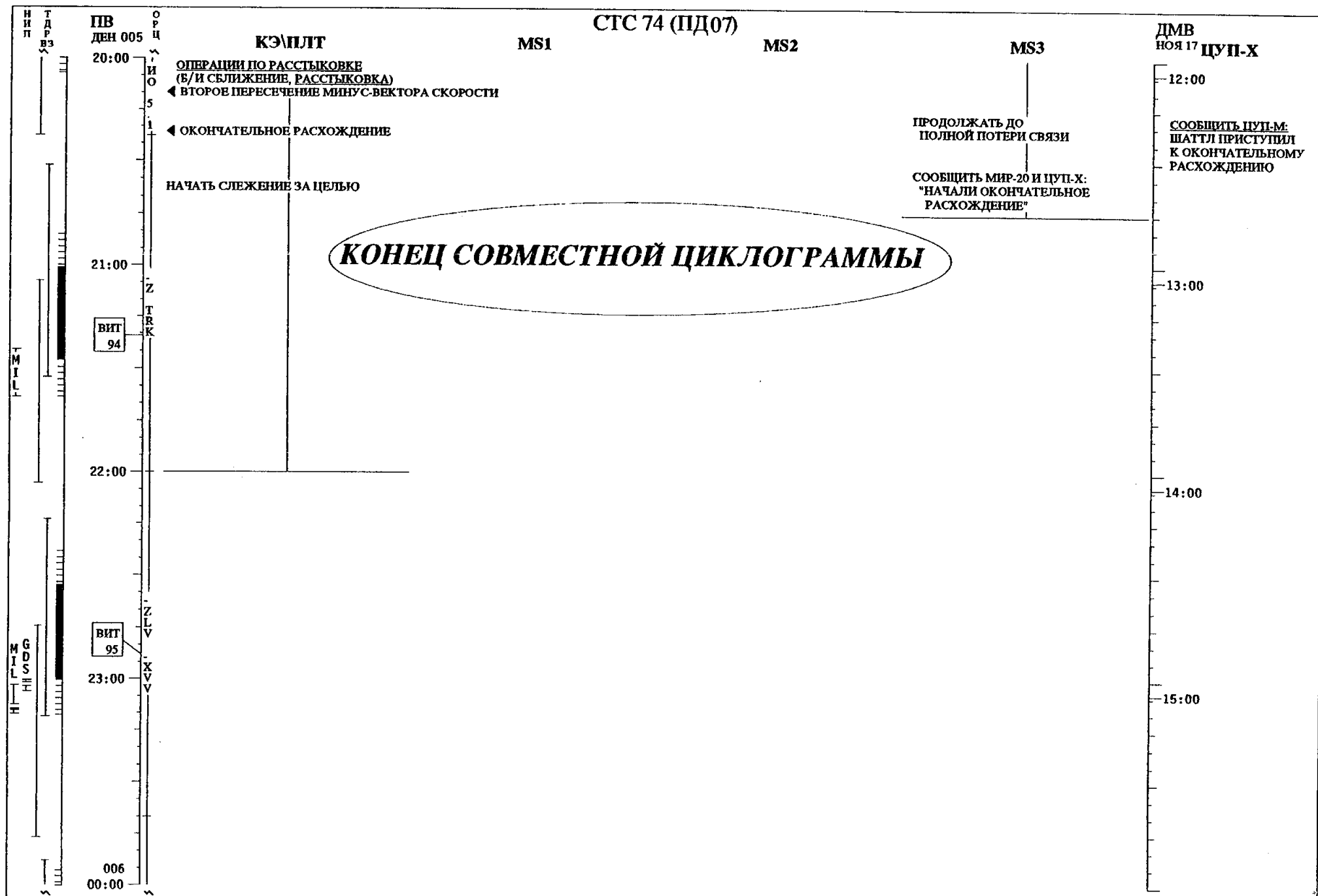
11:20

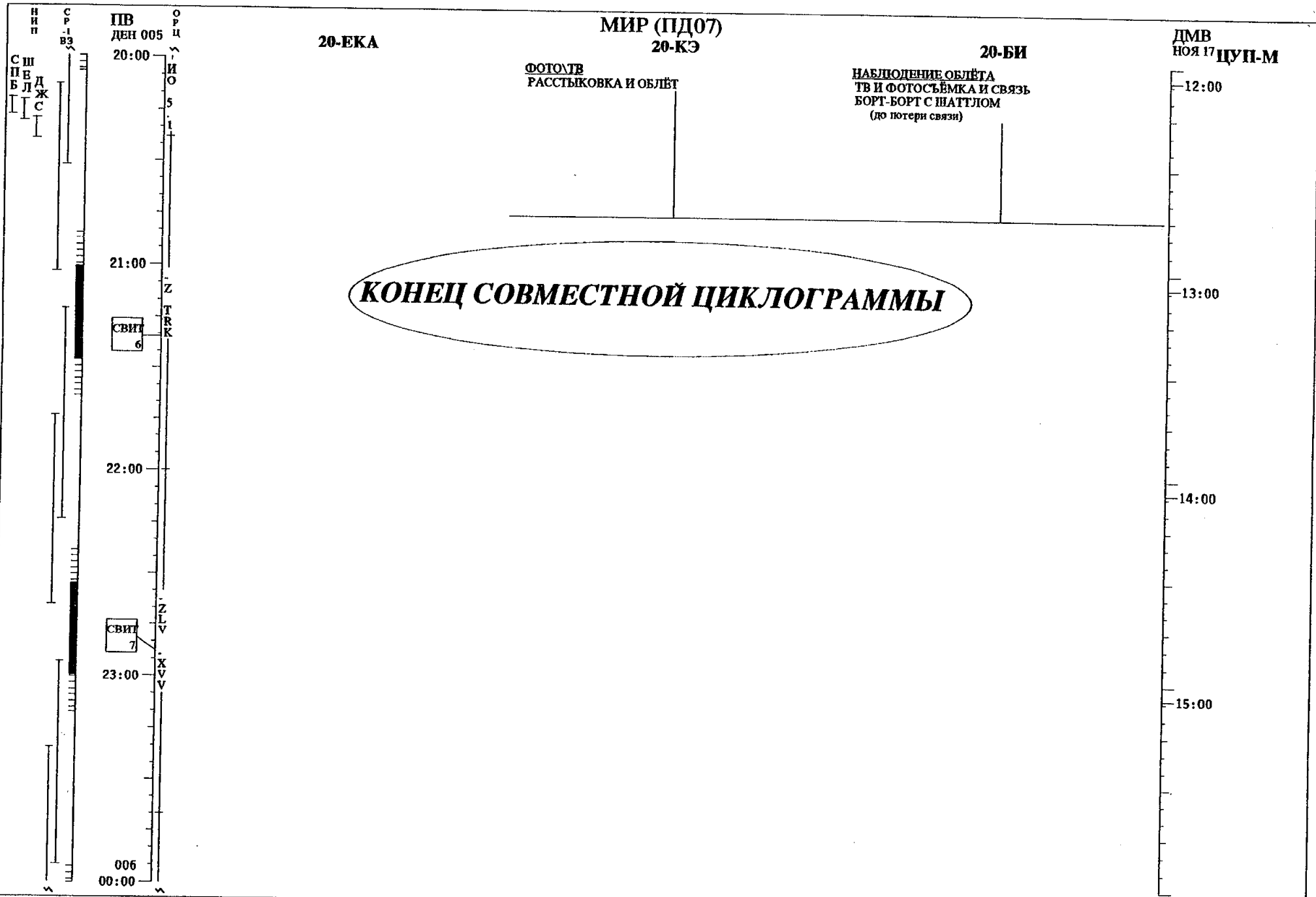
11:30

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11:50

СООБЩИТЬ ЦУП-М
МИР - В ОРИЕНТАЦИИ
ИО-1







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CONTINGENCY TIMELINES

DM INSTALL C EVA	4A-1
MDF (NO HATCH OPENING)	4B-1
MDF (FD5 LANDING)	4C-1

CONTINGENCY
TIMELINES

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GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE				
317:00:56/ 317:12:56	001:12:00/ 002:00:00	316:18:56/ 317:06:56	03/316 CST	-68.9		NOVEMBER 12, 1995	STS-74	INSTALLATION EVA	11/06/95				
DMT :317	4	5	6	7	8	9	10	11	12	13	14	15	
CST :316	19	20	21	22	23	0	1	2	3	4	5	6	
FD :03	12	13	14	15	16	17	18	19	20	21	22	23	0
MET :001		13	FD03										MET:002
CDR/PLT CAMERON HALSELL	SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	ODS PREP	DM TROUBLE SHOOT EVA PREP SUPPORT	EVA SUPPORT	REPRESS 14:7	EVA SUPPORT	CDN ESC DOWNLINK SAREX	ODS PREP FOR INGR
MS1 HADFIELD	SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	DM UNBERTH	DM TROUBLE SHOOT			DM INSTALL	DM REACT	ODS PREP FOR INGR
MS2 ROSS	SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	P/TV12 OPS ICBC	FOR EVA PREP	EMU PURGE & P/B	A/L DEPRESS	DM INSTALL EVA (1:35)	AI N G R E S S	REPRESS
MS3 McARTHUR	SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	DM UNBERTH	EVA EVA PREP	EMU PURGE & P/B	A/L DEPRESS	DM INSTALL EVA (1:35)	AI N G R E S S	REPRESS
DAY/NIGHT													
ORBIT	25	26	27	28	29	30	31	32					
DAILY ORBIT	14	15	16	1	2	3	4	5	6				
MOON UP/DOWN													
EARTH TRACE													
SITE COVERAGE	-ULD -USK -PPK	-PPK	-DJS -KLP -ULD -USK	-DJS -KLP -ULD -USK	-DJS -KLP -ULD -USK	-DJS -KLP -ULD -USK	-SHK -SPB	-SHK -SPB	-SHK -SPB	-SPB -SHK -DJS			
TDRS	E												W
STS ATT		-XLV -YVV (GLO EL)		-ZLV +YVV		-ZLV, -YVV	-FREE				-ZLV, -YVV		
NOTES:	ASSUMPTION: CABIN REPRESS OCCURS DURING EVA. ■ BOOSTER FAN REMOVAL PHOTO TV S/U DOCK AND PEEP RESCHEDULED FOR THE NEXT DAY. NOTES: PAO OPPTY, ESC DOWNLINK, AND SAREX ARE DELETED IN CONTINGENCY TIMELINE. ⊙-ZLV, +YVV ⊙-ZLV, -YVV ⊙-ZLV, -YVV												

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE				
317:12:56/ 318:00:56	002:00:00/ 002:12:00	317:06:56/ 317:18:56	03/317 CST	-68.3		NOVEMBER 13, 1995	STS-74	INSTALLATION EVA	11/06/95				
DMT :317	16	17	18	19	20	21	22	23	0	DMT:318	1	2	3
CST :317	7	8	9	10	11	12	13	14	15	16	17	18	19
FD :03	0	1	2	3	4	5	6	7	8	9	10	11	12
MET :002													
CDR/PLT CAMERON HALSELL	ODS PREP FOR INGR	BOO STIE R FAN INST	H2O CNTR FILL #4	115 FT CABLE CK	NH/NC4 OMS BURN	IMU MNV R ZLV MNV R PRIV MED CONF	PRE SLEEP					SLEEP (6.0)	
MS1 HADFIELD	ODS PREP FOR INGR		SH VST PRS CK	SH VST FIN LK CK	D & I LNK CK	DM CONF	COUNT/ALIG CMR	RING EXT				PRE SLEEP	SLEEP (6.0)
MS2 ROSS	POST EVA		SH VST PRS CK	SH VST FIN LK CK	D & I LNK CK	DM CONF	COUNT/ALIG CMR					PRE SLEEP	SLEEP (6.0)
MS3 MCARTHUR	POST EVA	OSVS STOW	PGSC SETUP	RMS UNGRAP	P CRADLE	RNDZ TOOLS C/O	PRE SLEEP	R MOR S DOCK POISE				PRE SLEEP	SLEEP (6.0)
DAY/NIGHT													
ORBIT	33	34	35	36	37	38	39	40					
DAILY ORBIT	6	7	8	9	10	11	12	13					
MOON UP/DOWN													
EARTH TRACE													
SITE COVERAGE	-USK -PPK -USK -PPK												
TDRS													
STS ATT	-ZLV, -YVV IMU -ZLV, -XVV												
NOTES:													

FLIGHT: STS-74 EDITION: MDF -NO HATCHES PUB. DATE: 11/06/95

MET : 000	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11		
STS FD1	C W R A K W I E													I V N E G H		L I O I F F T		P O S T I N S E R T I O N		K D U P		A N C P R E S L E E P		S L E E P			
MIR 20	ASSUMPTIONS: 1. LAUNCH DATE = NOV 11, 1995 GMT L/O = 12:56 2. BETA ANGLE RANGE WHILE DOCKED = -68 DEG																										
DAY/NIGHT ORBIT	3. MDE MISSION DURATION = 3 DAYS																										
DAILY ORB	4. ALTITUDE = 160 NMI INSERTION 213 NMI MIR RNDZ																										
NOTES:	5. +RBAR RNDZ APPROACH, SHUTTLE NOSE-IN-PLANE o DM ACT & C/O o OSVS C/O 6. DESCENDING LANDING OPPORTUNITIES																										

MET : 000	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11
STS FD2	S L E E P			A N C P O S T S L E E P		IMU	RMS C/O	SVS C/O	CL CAMR	RMS	ODS PREP	I N S E R T I O N	A N C P O D S I N G / L K C K S	DM I N G	D C O N F	C/L CAMR	RNDZ T O O L S	A N H / N C	P R E S L E E P			S L E E P (6)			
MIR 20	S L E E P											S L E E P (9)													
DAY/NIGHT ORBIT	[Day/Night Cycle]																								
DAILY ORB	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
DAILY ORB	1	2	3	4	5	6	7	8	9	10	11	12	13												
NOTES:	o RING EXT o MEAL o RMS PWR DN o SVS S/U o DM DEACT, UNBERTH o SW BOX, RING EXT																								

MET : 001	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11
STS FD3	S L E E P		P O S T S L E E P		L T S O D S	P N C A	A N C C	A T I	A R B A R	A D O C K	P R I O R I T Y	H K S / S W B	D M H / O	O D S P R E P	A U N D O C K	A S E E P	C A B I N S T O W			P R E S L E E P			S L E E P		
MIR 20	S L E E P											S L E E P (9)													
DAY/NIGHT ORBIT	[Day/Night Cycle]																								
DAILY ORB	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40								
DAILY ORB	13	14	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13								
NOTES:	o SOC INSTALL o RMS POISE FOR DOCK o RMS STOW A UNDOCK (ALTAIR) A SEP BURN o WASTE DUMP																								

MET : 002	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	
STS FD4	S L E E P											P O S T S L E E P				IMU	FCS C/O	D E O R B I T P R E P							D B U R N	L A N D I N G
MIR 20	S L E E P											S L E E P														
DAY/NIGHT ORBIT	[Day/Night Cycle]																									
DAILY ORB	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55										
DAILY ORB	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13										
NOTES:	o HOT FIRE WKSC LNDG, 3/07:01 WEDW LNDG, 3/10:07 WEDW LNDG, 3/08:30 WKSC LNDG, 3/08:38																									

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FLIGHT: STS-74 EDITION: MDF PUB. DATE: 11/06/95

MET : 000	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11
STS FD1	C/W R/A E/K W/F																								
MIR 20	ASSUMPTIONS: 1. LAUNCH DATE = NOV 11, 1995 GMT L/O = 12:56 2. BETA ANGLE RANGE WHILE DOCKED = -68 TO -67 DEG																				SLEEP (9)				
DAY/NIGHT	3. MDF MISSION DURATION = 4 DAYS																								
ORBIT	4. ALTITUDE = 160 NMI INSERTION																								
DAILY ORB	213 NMI MIR RNDZ																								
NOTES:	5. +RBAR RNDZ APPROACH, SHUTTLE NOSE-IN-PLANE o DM ACT & C/O @ OSVS C/O																								
	6. DESCENDING LANDING OPPORTUNITIES																								

MET : 000	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11
STS FD2		SLEEP			POST SLEEP	ANC2		RMS	SVS	CL	RMS	ODS	ING	ANC	DM	C/L	RNDZ								
MIR 20		SLEEP																							
DAY/NIGHT																									
ORBIT	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
DAILY ORB				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
NOTES:	o IMU/COAS o SVS S/U o RING EXT o MEAL o DM DEACT, UNBERTH o RMS PWR DN o SW BOX, RING EXT																								

MET : 001	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11
STS FD3	SLEEP	POST SLEEP		ANC	ATI	ARBAR		DOCK	POST DOCK CONFIG	WELCOME	MEAL	DM H/O	SAFE BRF			DOCK OPS				PRE SLEEP			SLEEP		
MIR 20		SLEEP																							
DAY/NIGHT																									
ORBIT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	
DAILY ORB	13	14	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
NOTES:	o RMS POISE FOR DOCK																								

MET : 002	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11
STS FD4		SLEEP				POST SLEEP	F/W	UNDOCK PREP	FLY RND	FCS C/O							CABIN STOW				PRE SLEEP			SLEEP	
MIR 20		SLEEP																							
DAY/NIGHT																									
ORBIT	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	
DAILY ORB	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
NOTES:	▲ UNDOCK ▲ SEP BURN o HOT FIRE																								

STS-74 DAP TABLE

DAP TABLE

DAP TABLE

<u>DAP</u>	<u>PURPOSE</u>	<u>DAP</u>	<u>PURPOSE</u>
A1	- NOMINAL	B1	- NOMINAL; OMS & RCS BURNS
A2	- PTC	B2	- LOSS OF VERN (TAIL ONLY)
A3	- GG	B3	- LOSS OF VERN (NOSE & TAIL)
A4	- PRE/POST DEPLOY	B4	- SSUS DEPLOY
A5	- LOSS OF VERN (NOSE & TAIL)	B5	- COAS CAL
A6	- LOSS OF VERN (TAIL ONLY) MIN PROP VERN	B7	- RENDEZVOUS
A7	- RENDEZVOUS	B8	- CORRIDOR
A8	- CORRIDOR	B9	- DOCKING
A9	- DOCKING	B10	- FLYAROUND
A10	- FLYAROUND	B11	- DM OPS
A11	- DM OPS	B12	- MATED STACK TIGHT CONTROL
A12	- MATED STACK MNVRS & HOLD	B13	- FAILED CAPTURE
A13	- FAILED CAPTURE	B14	- GLO OG ROLL
A14	- GLO, PRCS, GG	B15	- RME 1301
A15	- RME 1301		

UNIV PTG	
TGT ID	= Orbiting Vehicle = 2 Earth ctr = 3 Earth tgt input LAT (± 90) LON (± 180 , + = East) ALT (-3444.0 to 20000.0 nm)
	= 4 Sun ctr = 5 Celestial tgt Input RA (0-359.99) DEC (± 90) = 11-110 Nav Stars
BODY VECT	= 1 +X* = 2 -X* = 3 -Z* = 4 -Y Star Tracker* = 5 Optional Input P (0-359.99) Y (270-359.99,0-90)
*input OM →	OM (0-359.99)
MON AXIS	= 1 +X = 2 -X

CNT ACC = 0 UNLOADED
= 1-5 NOT USED

STS-74 GENERIC DAP A CONFIGURATIONS (A6 & A7 STS-74 SPECIFIC)

	ITEM #	A1	A2	A3	A4	A5	A6	A7
PRI								
ROT RATE	10	0.2000	0.4000	0.2000	0.5000	0.2000	0.2000	0.2000
ATT DB	11	5.00	1.00	1.00	3.00	5.00	5.00	2.00
RATE DB	12	0.20	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	13	0.10	0.10	0.10	0.10	0.10	0.10	0.10
COMP	14	.000	.000	.000	.000	.000	.000	.000
P OPTION	15	ALL	ALL	ALL	ALL	ALL	TAIL	ALL
Y OPTION	16	ALL	ALL	TAIL	ALL	ALL	TAIL	ALL
TRAN PLS	17	0.10	0.10	0.10	0.10	0.10	0.10	0.10
ALT								
RATE DB	18	0.200	0.200	0.200	0.200	0.070	0.070	0.200
JET OPT	19	ALL	ALL	ALL	ALL	ALL	TAIL	ALL
# JETS	20	2	2	2	2	1	1	2
ON TIME	21	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VERN								
ROT RATE	23	0.2000	0.4000	0.0080	0.2000	0.2000	0.0650	0.2000
ATT DB	24	1.000	1.000	0.070	1.000	1.000	1.000	1.000
RATE DB	25	.020	.020	.010	.020	.020	.020	.020
ROT PLS	26	0.010	0.010	0.010	0.010	0.010	0.010	0.010
COMP	27	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28	0	0	0	0	0	0	2
PURPOSE		NOMINAL	PTC	GG	PRE/ POST DEPLOY	LOSS OF VERN N/T	LOSS OF VERN TAIL ONLY MIN PROP VERN	RNDZ

Note: **BOLD/ITALICS** = not l-Loaded

STS-74 FLIGHT SPECIFIC DAP A CONFIGURATIONS

	ITEM #	A8	A9	A10	A11	A12	A13	A14	A15
PRI									
ROT RATE	10	0.2000	<i>0.0500</i>	<i>0.1300</i>	<i>0.1000</i>	<i>0.1000</i>	<i>0.0500</i>	<i>0.3000</i>	0.1000
ATT DB	11	<i>1.00</i>	<i>0.50</i>	<i>2.00</i>	5.00	5.00	<i>1.00</i>	<i>3.00</i>	40.00
RATE DB	12	<i>0.10</i>	<i>0.10</i>	<i>0.10</i>	0.20	0.20	<i>0.10</i>	0.20	0.20
ROT PLS	13	0.10	0.10	0.10	<i>0.04</i>	<i>0.04</i>	0.10	<i>1.00</i>	0.003*
COMP	14	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	15	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	ALL	TAIL
Y OPTION	16	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	ALL	TAIL
TRAN PLS	17	0.05	<i>0.05</i>	<i>0.05</i>	<i>0.01</i>	<i>0.01</i>	<i>0.05</i>	<i>0.75</i>	0.01
ALT									
RATE DB	18	0.200	0.200	0.200	0.200	<i>0.070</i>	0.200	0.200	0.200
JET OPT	19	ALL	ALL	ALL	<i>TAIL</i>	<i>TAIL</i>	ALL	TAIL	TAIL
# JETS	20	2	2	2	2	3	2	2	3
ON TIME	21	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22	0.00	0.00	0.00	<i>6.60</i>	<i>12.16</i>	0.00	0.00	<i>12.16</i>
VERN									
ROT RATE	23	0.2000	<i>0.0500</i>	<i>0.1300</i>	0.2000	<i>0.1500</i>	<i>0.0500</i>	<i>0.3000</i>	0.0500
ATT DB	24	1.000	<i>0.500</i>	<i>2.000</i>	<i>3.000</i>	<i>5.000</i>	1.000	1.000	<i>5.000</i>
RATE DB	25	.020	.020	.020	.200	<i>.050</i>	.020	.020	<i>.050</i>
ROT PLS	26	0.010	<i>0.050</i>	<i>0.050</i>	<i>0.002</i>	<i>0.002</i>	<i>0.050</i>	<i>0.050</i>	0.001
COMP	27	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28	2	2	0	3	7	2	0	7
PURPOSE		CORRIDOR	DOCKING	FLY AROUND	DM OPS	MATED STACK MNVRS & HOLD	FAILED CAPTURE	GLO, PRCS, GG	RME 1301

Note: **BOLD/ITALICS** = not l-loaded

* .003 is below SPEC 20 lower limit. Value has been l-loaded and will not show on SPEC 20 display

STS-74 GENERIC DAP B CONFIGURATIONS (B7 STS-74 SPECIFIC)

	ITEM #	B1	B2	B3	B4	B5	B7
PRI							
ROT RATE	30	0.5000	0.2000	0.2000	0.2000	0.2000	0.5000
ATT DB	31	3.00	3.00	3.00	0.30	3.00	2.00
RATE DB	32	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	33	0.04	0.04	0.04	0.04	0.04	0.04
COMP	34	.000	.000	.000	.000	.000	.000
P OPTION	35	ALL	TAIL	ALL	TAIL	TAIL	ALL
Y OPTION	36	ALL	TAIL	ALL	TAIL	TAIL	ALL
TRAN PLS	37	0.10	0.02	0.02	0.02	0.02	0.05
ALT							
RATE DB	38	0.200	0.070	0.070	0.200	0.200	0.200
JET OPT	39	ALL	TAIL	ALL	ALL	ALL	ALL
# JETS	40	2	1	1	2	2	2
ON TIME	41	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42	0.00	0.00	0.00	0.00	0.00	0.00
VERN							
ROT RATE	43	0.2000	0.2000	0.2000	0.0080	0.0160	0.2000
ATT DB	44	1.000	1.000	1.000	0.100	0.033	1.000
RATE DB	45	.020	.020	.020	.010	.020	.020
ROT PLS	46	0.002	0.002	0.002	0.002	0.002	0.002
COMP	47	.000	.000	.000	.000	.000	.000
CNTL ACC	48	0	0	0	0	0	2
PURPOSE		NOM OMS RCS BURNS	LOSS OF VERN TAIL ONLY	LOSS OF VERN N & T	SSUS DEPLOY	COAS CAL	RNDZ

Note: ***BOLD/ITALICS*** = not l-Loaded

STS-74 FLIGHT SPECIFIC DAP B CONFIGURATIONS

	ITEM #	B8	B9	B10	B11	B12	B13	B14	B15
PRI									
ROT RATE	30	0.2000	<i>0.0500</i>	<i>0.1300</i>	<i>0.1000</i>	<i>0.0500</i>	<i>0.0500</i>	<i>0.1000</i>	0.1000
ATT DB	31	<i>1.00</i>	<i>0.50</i>	<i>2.00</i>	<i>5.00</i>	<i>5.00</i>	<i>1.00</i>	<i>1.00</i>	40.00
RATE DB	32	<i>0.10</i>	<i>0.10</i>	<i>0.10</i>	0.20	0.20	<i>0.10</i>	0.20	0.20
ROT PLS	33	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.003*
COMP	34	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	35	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	ALL	TAIL
Y OPTION	36	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	<i>TAIL</i>	ALL	TAIL
TRAN PLS	37	0.01	<i>0.01</i>	<i>0.01</i>	<i>0.61</i>	<i>0.01</i>	<i>0.01</i>	<i>0.02</i>	0.01
ALT									
RATE DB	38	0.200	0.200	0.200	0.200	<i>0.070</i>	0.200	<i>0.070</i>	0.200
JET OPT	39	ALL	ALL	ALL	<i>TAIL</i>	<i>TAIL</i>	ALL	<i>TAIL</i>	TAIL
# JETS	40	2	2	2	2	3	2	2	3
ON TIME	41	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42	0.00	0.00	<i>0.00</i>	<i>4.70</i>	<i>12.16</i>	<i>0.00</i>	<i>0.00</i>	<i>12.16</i>
VERN									
ROT RATE	43	0.2000	<i>0.0500</i>	<i>0.1300</i>	0.2000	<i>0.1000</i>	<i>0.0500</i>	0.1000	<i>0.0500</i>
ATT DB	44	1.000	<i>0.500</i>	<i>2.000</i>	<i>3.000</i>	<i>1.000</i>	1.000	1.000	5.000
RATE DB	45	.020	.020	.020	<i>.200</i>	<i>.050</i>	.020	.020	.050
ROT PLS	46	0.002	<i>0.020</i>	<i>0.020</i>	0.002	0.002	<i>0.020</i>	0.002	0.001
COMP	47	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	48	2	2	0	3	7	2	0	7
PURPOSE		CORRIDOR	DOCKING	FLY AROUND	DM OPS	MATED STACK TIGHT CONTROL	FAILED CAPTURE	GLO OG ROLL	RME 1301

Note: **BOLD/ITALICS** = not I-Loaded

* .003 is below SPEC 20 lower limit. Value has been I-loaded and will not show on SPEC 20 display

The sections following this divider page will not be included in flight copies.

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ATTITUDE TIMELINE

ATTITUDE
TIMELINE

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
1 000/01:12:00 MET 315/14:08:10 GMT	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 90.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y=270.00	-ZLV -YVV POST INSERTION
2 000/03:26:00 MET 33:36 315/16:22:10 GMT 29:46	INRTL R= 54.00 MNVR P= 39.00 Y=358.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	SUN R 259 P 108		NC1 +X OMS TIG: 0/3:41 POST TVR 180
3 000/03:45:00 MET 53:51 315/16:41:10 GMT 50:01	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 90.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y=270.00	-ZLV -YVV CREW SLEEP
4 000/10:30:00 MET 53:05 315/23:26:10 GMT 49:15	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 90.00	A6 RATE 0.0650 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 325 P 180	LVLH R=270.00 P= 90.00 Y= 0.00	-XLV -YVV GLO EL ATTITUDE FUTURE LOADED
5 000/15:38:00 MET 316/04:34:10 GMT					NC2 +X RCS MULTI-AXIS
6 000/17:05:00 MET 10:49 316/06:01:10 GMT 06:59	INRTL R=120.00 MNVR P= 49.00 Y= 1.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	SUN R 195 P 103	A1 PAIR -Y:56 AL SUHAIL -Z:32 ALDEBARAN	IMU/COAS
7 000/17:35:00 MET 45:02 316/06:31:10 GMT 41:12	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
8 001/03:21:00 MET 35:59 316/16:17:10 GMT 32:09	INRTL R= 41.00 MNVR P= 81.00 Y= 44.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	SUN R 276 P 110		NC3 +X RCS TIG: 1/03:36:41 POST TVR 180
9 001/03:45:00 MET 04:00:00 316/16:41:10 GMT 56:10	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV, -XVV
10 001/04:30:00 MET 45:00 316/17:26:10 GMT 41:10	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	+ZLV +XVV PASDE CAL
11 001/10:00:00 MET 30:46 316/22:56:10 GMT 23:26:56	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 90.00	A6 RATE 0.0650 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 290 P 180	LVLH R=270.00 P= 90.00 Y= 0.00	-XLV -YVV GLO EL ATTITUDE FUTURE LOADED
12 001/15:00:00 MET 15:00 317/03:56:10 GMT 04:11:10	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV, +YVV WASTE DUMP

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION		DAP	E/S	REF ATT/REMARKS	EVENT
13 001/17:00:00 MET 15:00 317/05:56:10 GMT 06:11:10	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 90.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y=270.00	-ZLV, -YVV DM INSTALL
14 001/18:15:00 MET 317/07:11:10 GMT						Free Drift for DM INSTALL
15 001/19:44:19 MET 317/08:40:29 GMT						NPC MULTI-AXIS 1/19:44:19
16 001/21:55:00 MET 22:03:20 317/10:51:10 GMT 59:30	INRTL R=121.20 MNVR P=314.75 Y= 10.70	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 126 P 142		MOON CAL
17 002/03:34:00 MET 45:20 317/16:30:10 GMT 41:30	INRTL R=315.00 MNVR P=189.00 Y= 47.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 291 P 97		NH/NC4 +X OMS TIG: 2/03:49:25 POSI TVR 180
18 002/03:55:00 MET 04:09:59 317/16:51:10 GMT 17:06:09	TGT=2 BV=5 P=100.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 0 P 100	LVLH R= 0.00 P=170.00 Y= 0.00	-ZLV, -XVV GLO EL/THERMAL/ ORBITAL DEBRIS/ PROP SAVING ATT
19 002/13:50:00 MET 59:22 318/02:46:10 GMT 55:32	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.1780 DB AT 5.00 DB RT 0.070	EARTH R 233 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	-Z TGT TRACK
20 002/14:08:00 MET 49:40 318/03:04:10 GMT 45:50	TGT=2 BV=5 P=340.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.0080 DB AT 5.00 DB RT 0.070	EARTH R 180 P 20	LVLH R= 0.00 P=290.00 Y= 0.00	-Z TGT TRACK
21 002/14:50:00 MET 15:01:54 318/03:46:10 GMT 58:04	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.0280 DB AT 5.00 DB RT 0.070	EARTH R 338 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	-Z TGT TRACK
22 002/15:05:00 MET 06:30 318/04:01:10 GMT 02:40	INRTL R=239.00 MNVR P= 31.00 Y=334.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 67 P 92		Ti OMS BURN TIG: 2/15:20:26 POSI TVR 0
23 002/15:21:00 MET 27:54 318/04:17:10 GMT 24:04	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 231 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	-Z TGT TRACK
24 002/15:31:00 MET 49:31 318/04:27:10 GMT 45:41	TGT=2 BV=5 P=350.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.0090 DB AT 5.00 DB RT 0.070	EARTH R 180 P 10	LVLH R= 0.00 P=280.00 Y= 0.00	-Z TGT TRACK

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION		DAP	E/S	REF ATT/REMARKS	EVENT		
25	002/15:54:00 MET 16:05:07	TGT=2 BV=5 P=340.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.0150 DB AT 5.00 DB RT 0.070	EARTH R 180 P 20	LVLH R= 0.00 P=290.00 Y= 0.00	-Z TGT TRACK	
	318/04:50:10 GMT 05:01:17							
26	002/16:06:00 MET 13:56	TGT=2 BV=5 P=320.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.0420 DB AT 5.00 DB RT 0.070	EARTH R 180 P 40	LVLH R= 0.00 P=310.00 Y= 0.00	-Z TGT TRACK	
	318/05:02:10 GMT 10:06							
27	002/16:14:00 MET 26:58	TGT=2 BV=5 P=285.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.0450 DB AT 5.00 DB RT 0.070	EARTH R 180 P 75	LVLH R= 0.00 P=345.00 Y= 0.00	-Z TGT TRACK	
	318/05:10:10 GMT 23:08							
28	002/16:30:00 MET 31:00	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.2500 DB AT 5.00 DB RT 0.070	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	R-BAR ARRIVAL	
	318/05:26:10 GMT 27:10							
29	002/18:24:00 MET						DOCKING: 2/18:24	
	318/07:20:10 GMT							
30	002/18:50:00 MET 19:03:14	TGT=4 BV=5 P= 17.70 Y=357.00 OM=245.00	RA= 228.383 DEC= -17.965S	A12 AUTO VERN	RATE 0.1500 DB AT 5.000 DB RT 0.050	SUN R 350 P 18	INRTL R=287.01 P=150.81 Y=332.44	IO5.1.08.145 a/n=-8 RAS 145 deg
	318/07:46:10 GMT 59:24							
31	002/21:00:00 MET 16:09	TGT=4 BV=5 P= 17.70 Y=357.00 OM= 99.70	RA= 228.475 DEC= -17.989S	A12 AUTO VERN	RATE 0.1500 DB AT 5.000 DB RT 0.050	SUN R 350 P 18	INRTL R=160.19 P=176.34 Y=303.26	IO5.1.08.00 a/n=-8 RAS 000 deg
	318/09:56:10 GMT 10:12:19							
32	003/00:50:00 MET 01:02:11	TGT=4 BV=5 P= 17.70 Y=357.00 OM=350.00	RA= 228.638 DEC= -18.031S	A12 AUTO VERN	RATE 0.1500 DB AT 5.000 DB RT 0.050	SUN R 350 P 18	INRTL R= 11.79 P=127.70 Y=310.75	IO5.1.08.250 a/n=-8 RAS 250 deg
	318/13:46:10 GMT 58:21							
33	003/01:30:00 MET 41:58	TGT=2 BV=5 P=121.40 Y=359.20 OM=263.50		A12 AUTO VERN	RATE 0.1500 DB AT 5.000 DB RT 0.050	EARTH R 359 P 121	LVLH R=102.37 P= 80.26 Y= 58.09	GO 5.1 MODIFIED 10 DEG
	318/14:26:10 GMT 38:08							
34	003/07:40:00 MET 51:12	TGT=4 BV=5 P=155.20 Y= 9.40 OM=250.50	RA= 228.929 DEC= -18.107S	A12 AUTO VERN	RATE 0.1500 DB AT 5.000 DB RT 0.050	SUN R 22 P 154	INRTL R= 71.19 P=331.80 Y= 72.17	IO4.3.15.00 a/n=+15 RAS 00 deg
	318/20:36:10 GMT 47:22							
35	003/16:05:00 MET 23:13	TGT=4 BV=5 P= 15.30 Y=357.40 OM= 99.70	RA= 229.288 DEC= -18.199S	A12 AUTO VERN	RATE 0.1500 DB AT 5.000 DB RT 0.050	SUN R 350 P 16	INRTL R=147.73 P=169.89 Y=302.19	IO5.1.08.00 a/n=-8 RAS 00 deg
	319/05:01:10 GMT 19:23							
36	003/22:20:00 MET 39:58	TGT=4 BV=5 P= 15.30 Y=357.40 OM=280.00	RA= 229.554 DEC= -18.266S	A12 AUTO VERN	RATE 0.1500 DB AT 5.000 DB RT 0.050	SUN R 350 P 16	INRTL R=306.19 P=143.12 Y=327.25	IO5.1.08.180 a/n=-8 RAS 180 deg
	319/11:16:10 GMT 36:08							

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION	DAF	E/S	REF ATT/REMARKS	EVENT
37 004/00:00:00 MET 13:36 319/12:56:10 GMT 13:09:46	TGT=2 BV=5 P=126.40 Y= 0.00 OM=263.30	A12 AUTO VERN RATE 0.1500 DB AT 5.000 DB RT 0.050	EARTH R 0 P 126	LVLH R=101.20 P= 81.01 Y= 53.07	GO 5.1 MODIFIED 5 DEG
38 004/07:40:00 MET 57:43 319/20:36:10 GMT 53:53	TGT=4 BV=5 P=158.40 Y= 10.50 OM=251.10 RA= 229.953 DEC= -18.367S	A12 AUTO VERN RATE 0.1500 DB AT 5.000 DB RT 0.050	SUN R 27 P 156	INRTL R= 92.03 P=316.22 Y= 69.03	IO4.3.15.00 a/n=+15 RAS 00 deg
39 004/16:20:00 MET 28:20 320/05:16:10 GMT 24:30	TGT=2 BV=5 P=221.00 Y= 7.00 OM=271.00	A12 AUTO VERN RATE 0.1500 DB AT 5.000 DB RT 0.050	EARTH R 169 P 139	LVLH R= 88.69 P= 82.14 Y=319.13	GO 4.1 H2O DUMP
40 004/18:40:00 MET 54:14 320/07:36:10 GMT 50:24	TGT=4 BV=5 P= 11.70 Y=358.00 OM= 99.80 RA= 230.424 DEC= -18.485S	A12 AUTO VERN RATE 0.1500 DB AT 5.000 DB RT 0.050	SUN R 350 P 12	INRTL R=133.56 P=161.96 Y=302.71	IO5.1.08.00 a/n=-8 RAS 00 deg
41 005/01:00:00 MET 23:35 320/13:56:10 GMT 14:19:45	TGT=2 BV=5 P=131.40 Y= 0.40 OM=263.40	A12 AUTO ALT RATE 0.1000 DB AT 5.00 DB RT 0.070	EARTH R 1 P 131	LVLH R= 99.91 P= 82.18 Y= 48.13	GO 5.1 NOMINAL
42 005/07:40:00 MET 51:28 320/20:36:10 GMT 47:38	TGT=4 BV=5 P=162.00 Y= 11.60 OM=251.80 RA= 230.981 DEC= -18.622S	A12 AUTO VERN RATE 0.1500 DB AT 5.000 DB RT 0.050	SUN R 34 P 159	INRTL R=103.32 P=308.75 Y= 64.71	IO4.3.15.00 a/n=15 RAS 00 deg
43 005/16:40:00 MET 49:55 321/05:36:10 GMT 46:05	TGT=2 BV=5 P=222.00 Y= 7.00 OM=181.00	A12 AUTO VERN RATE 0.1500 DB AT 5.000 DB RT 0.050	EARTH R 170 P 138	LVLH R=183.95 P=132.14 Y=354.13	GO 3.1
44 005/18:38:00 MET 321/07:34:10 GMT		A8 INRT VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 299 P 106	INRTL R=288.83 HOLD P=226.73 Y= 33.77	UNDOCKING AOS SHK+2 MIN
45 005/18:54:00 MET 57:57 321/07:50:10 GMT 54:07	TGT=2 BV=5 P= 0.00 Y= 0.00 OM=180.00	A10 AUTO VERN RATE 0.3200 DB AT 2.000 DB RT 0.020	EARTH R 49 P 0	LVLH R=180.00 P=270.00 Y= 0.00	INIT TAIL FWD TOR FLYAROUND +V-BAR
46 005/19:03:00 MET 14:27 321/07:59:10 GMT 08:10:37	TGT=2 BV=5 P= 90.00 Y= 0.00 OM=180.00	A10 AUTO VERN RATE 0.1310 DB AT 2.000 DB RT 0.020	EARTH R 360 P 90	LVLH R=180.00 P= 0.00 Y= 0.00	-R-BAR
47 005/19:14:30 MET 25:57 321/08:10:40 GMT 22:07	TGT=2 BV=5 P=180.00 Y= 0.00 OM=180.00	A10 AUTO VERN RATE 0.1310 DB AT 2.000 DB RT 0.020	EARTH R 241 P 180	LVLH R=180.00 P= 90.00 Y= 0.00	-V-BAR
48 005/19:26:00 MET 37:27 321/08:22:10 GMT 33:37	TGT=2 BV=5 P=270.00 Y= 0.00 OM=180.00	A10 AUTO VERN RATE 0.1310 DB AT 2.000 DB RT 0.020	EARTH R 180 P 90	LVLH R=180.00 P=180.00 Y= 0.00	+R-BAR

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
49 005/19:37:30 MET 48:57 321/08:33:40 GMT 45:07	TGT=2 BV=5 P= 0.00 Y= 0.00 OM=180.00	A10 AUTO VERN RATE 0.1310 DB AT 2.000 DB RT 0.020	EARTH R 161 P 0	LVLH R=180.00 P=270.00 Y= 0.00	+V-BAR
50 005/19:49:00 MET 20:00:27 321/08:45:10 GMT 56:37	TGT=2 BV=5 P= 90.00 Y= 0.00 OM=180.00	A10 AUTO VERN RATE 0.1310 DB AT 2.000 DB RT 0.020	EARTH R 360 P 90	LVLH R=180.00 P= 0.00 Y= 0.00	-R-BAR
51 005/20:00:30 MET 11:57 321/08:56:40 GMT 09:08:07	TGT=2 BV=5 P=180.00 Y= 0.00 OM=180.00	A10 AUTO VERN RATE 0.1310 DB AT 2.000 DB RT 0.020	EARTH R 180 P 180	LVLH R=180.00 P= 90.00 Y= 0.00	-V-BAR
52 005/20:12:00 MET 22:57 321/09:08:10 GMT 19:07	TGT=2 BV=5 P=270.00 Y= 0.00 OM=180.00	A10 AUTO VERN RATE 0.1370 DB AT 2.000 DB RT 0.020	EARTH R 180 P 90	LVLH R=180.00 P=180.00 Y= 0.00	+R-BAR
53 005/20:23:00 MET 321/09:19:10 GMT		A10 LVLH VERN RATE 0.1300 DB AT 2.000 DB RT 0.020	EARTH R 180 P 90	LVLH R=180.00 HOLD P=180.00 Y= 0.00	SEP BURN
54 005/20:25:00 MET 21:10:27 321/09:21:10 GMT 10:06:37	TGT=2 BV=1 P= 0.00 Y= 0.00 OM=180.00	A6 AUTO ALT RATE 0.0330 DB AT 5.00 DB RT 0.070	EARTH R 0 P 0	LVLH R=180.00 P=270.00 Y= 0.00	-Z TARGET TRACK
55 005/22:00:00 MET 15:00 321/10:56:10 GMT 11:11:10	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV, -XVV
56 005/23:55:00 MET 58:14 321/12:51:10 GMT 54:24	INRTL R=236.00 MNVR P= 19.00 Y=297.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 68 P 63		+X RETRO OMS TIG 6/00:06 POSI TVR 180
57 006/00:10:00 MET 321/13:06:10 GMT		A6 LVLH VERN RATE 0.0650 DB AT 1.000 DB RT 0.020	EARTH R 360 P 70	LVLH R= 0.30 HOLD P=199.61 Y=359.87	HOLD BETWEEN BURNS
58 006/00:37:00 MET 42:42 321/13:33:10 GMT 38:52	INRTL R=132.00 MNVR P=190.00 Y= 68.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 109 P 120		+X RETRO OMS TIG 6/00:52 POSI TVR 180
59 006/01:00:00 MET 03:24 321/13:56:10 GMT 59:34	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
60 006/06:00:00 MET 13:12 321/18:56:10 GMT 19:09:22	INRTL R=120.00 MNVR P= 49.00 Y= 1.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 191 P 99	Star Pair A1 -Y:56 AL SUHAIL -Z:32 ALDEBARAN	IMU ALIGN

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
61 006/06:20:00 MET 25:18 321/19:16:10 GMT 21:28	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 90.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 310 P 180	LVLH R=270.00 P= 90.00 Y= 0.00	-XLV -YVV
62 006/12:00:00 MET 07:30 322/00:56:10 GMT 01:03:40	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 0.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 180 P 180	LVLH R= 0.00 P= 90.00 Y= 0.00	-XLV +ZVV GLO EL (FUTURE LOADED)
63 006/17:30:00 MET 40:00 322/06:26:10 GMT 36:10	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV +YVV WASTE DUNP
64 006/19:30:00 MET 45:00 322/08:26:10 GMT 41:10	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 90.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 45 P 180	LVLH R=270.00 P= 90.00 Y= 0.00	-XLV -YVV APAS
65 006/23:15:00 MET 16:40 322/12:11:10 GMT 12:50	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 70.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 90 P 180	LVLH R=290.00 P= 90.00 Y= 0.00	BIAS -XLV -YVV BIAS FOR PIC
66 007/00:10:00 MET 21:47 322/13:06:10 GMT 17:57	TGT=4 BV=3 P= 90.00 Y= 0.00 OM= 0.00 RA= 232.724 DEC= -19.040S	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 360 P 90	INRTL R=310.29 P= 49.24 Y=350.44	-ZSI (APAS)
67 007/02:00:00 MET 13:11 322/14:56:10 GMT 15:09:21	TGT=2 BV=1 P= 0.00 Y= 0.00 OM=120.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 217 P 0	LVLH R=120.00 P=270.00 Y= 0.00	BIAS +XLV -YVV GLO OG ROLL TST STARTING ATT
68 007/02:18:00 MET 38:00 322/15:14:10 GMT 34:10	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	B14 AUTO VERN RATE 0.1000 DB AT 1.000 DB RT 0.020	EARTH R 115 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	+XLV -ZVV GLO OG ROLL TST ROLL MNVR
69 007/02:45:00 MET 55:00 322/15:41:10 GMT 51:10	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 90.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 90.00	+ZLV -YVV GLO PRCS TEST ATT 1
70 007/03:50:00 MET 52:30 322/16:46:10 GMT 48:40	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 45.00	A14 AUTO ALT RATE 0.3000 DB AT 3.00 DB RT 0.200	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 45.00	GLO PRCS TEST ATT 2
71 007/03:56:00 MET 58:30 322/16:52:10 GMT 54:40	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00	A14 AUTO ALT RATE 0.3000 DB AT 3.00 DB RT 0.200	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	GLO PRCS TEST ATT 3
72 007/04:02:00 MET 04:30 322/16:58:10 GMT 17:00:40	TGT=2 BV=5 P=270.00 Y= 0.00 OM=315.00	A14 AUTO ALT RATE 0.3000 DB AT 3.00 DB RT 0.200	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y=315.00	GLO PRCS TEST ATT 4

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION	DAF	E/S	REF ATT/REMARKS	EVENT
73 007/04:08:00 MET 10:30 322/17:04:10 GMT 06:40	TGT=2 BV=5 P=270.00 Y= 0.00 OM=270.00	A14 AUTO ALT RATE 0.3000 DB AT 3.00 DB RT 0.200	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y=270.00	GLO PRCS TEST ATT 5
74 007/04:15:00 MET 29:56 322/17:11:10 GMT 26:06	INRTL R= 9.00 MNVR P=207.00 Y= 33.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 227 P 96	C1 PAIR -Y:42 ALPHECCA -Z:38 NAVI	IMU ALIGN
75 007/04:35:00 MET 40:34 322/17:31:10 GMT 36:44	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 90.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 342 P 180	LVLH R=270.00 P= 90.00 Y= 0.00	-XLV -YVV GLO EL ATTITUDE
76 007/13:45:00 MET 54:32 323/02:41:10 GMT 50:42	TGT=2 BV=5 P=100.00 Y= 0.00 OM= 0.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 0 P 100	LVLH R= 0.00 P=170.00 Y= 0.00	-ZLV -XVV FUTURE LOADED
77 007/19:00:00 MET 12:52 323/07:56:10 GMT 08:09:02	INRTL R=120.00 MNVR P= 49.00 Y= 1.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 190 P 98	STAR PAIR A1 -Y:56 AL SUHAIL -Z: ALDEBARAN	IMU ALIGN
78 007/19:20:00 MET 31:56 323/08:16:10 GMT 28:06	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV, -XVV
79 008/00:14:00 MET 57:19 323/13:10:10 GMT 53:29	INRTL R=137.00 MNVR P=345.00 Y= 33.00	A6 AUTO VERN RATE 0.0650 DB AT 1.000 DB RT 0.020	SUN R 163 P 160		-XSI COLDSOAK
80 008/01:44:00 MET 48:20 323/14:40:10 GMT 44:30	INRTL R=101.00 MNVR P= 25.00 Y= 4.00	A1 AUTO PRI RATE 0.2000 DB AT 5.00 DB RT 0.20	SUN R 205 P 115	-Y: 34 -Z: 23	D/O IMU ALIGN
81 008/01:57:00 MET 59:14 323/14:53:10 GMT 55:24	INRTL R= 76.00 MNVR P= 89.00 Y= 37.00	B1 AUTO PRI RATE 0.5000 DB AT 3.00 DB RT 0.20	SUN R 229 P 102	-Y: 47 -Z: 31	D/O IMU VERIF
82 008/02:05:00 MET 08:43 323/15:01:10 GMT 04:53	INRTL R=138.00 MNVR P=322.00 Y= 12.00	B1 AUTO PRI RATE 0.5000 DB AT 3.00 DB RT 0.20	SUN R 124 P 142		D/O COMM ATT
83 008/04:27:00 MET 32:58 323/17:23:10 GMT 29:08	INRTL R=262.00 MNVR P= 57.00 Y= 42.00	B1 AUTO PRI RATE 0.5000 DB AT 3.00 DB RT 0.20	SUN R 58 P 122	TIG: 08/04:29	D/O BURN ATT LVLH 0,192,0

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

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STS-74 FLIGHT PLAN NOTES

FLIGHT PLAN NOTES
(CONSTRAINTS AND GUIDELINES)

A. FLIGHT DESCRIPTION

Orbiter: OV104/Atlantis
 Inclination: 51.6°
 Insertion Altitude: 160 nm
 Mir Docking Altitude: 213 nm
 Duration: 8 + 2 days

B. MAJOR EVENTS

<u>EVENT</u>	<u>ORBIT</u>	<u>DAILY ORBIT</u>	<u>MET</u>	<u>CST</u>	<u>ΔV (fps)</u>	<u>HP/HA (nm)</u>
Launch	--	--	00/00:00	06:56 CST	--	--
OMS-2	1	6	00/00:43	07:39 CST	73.2	85/160
NC1	3	--	00/03:41	10:37 CST	68.8	123/159
NC2	11	--	00/15:39	22:35 CST	0.0	123/159
NC3	19	--	01/03:37	10:33 CST	4.0	125/159
NPC	30	3	01/19:44	02:40 CST	1.8	125/159
NH/NC4	35	8	02/03:49	10:46 CST	126.3	144/210
NC5	42	15	02/13:48	20:44 CST	109.6	207/211
NCC	41	14	02/14:22	21:18 CST	0.0	207/211
Ti	43	1	02/15:20	22:17 CST	9.0	209/213
RBAR Arrival	44	2	02/16:30	23:27 CST	--	209/213
Docking	45	3	02/18:24	01:20 CST	--	209/214
Undocking	92	4	05/18:38	01:34 CST	--	209/214
RCS Sep	93	5	05/20:23	03:19 CST	3.0	209/213
GLO Sep 1	95	--	06/00:06	07:02 CST	0.0	209/213
GLO Sep 2	96	--	06/00:52	07:48 CST	0.0	209/213
Deorbit	129	--	08/04:29	11:25 CST	--	--
Landing	130	--	08/05:29	12:25 CST	--	--

C. LANDING OPPORTUNITIES

		<u>Landing Orbit No.</u>	<u>Site</u>	<u>Local Time</u>	<u>MET</u>
Nominal	Primary	129	KSC	13:25 EST	08/05:29
	Weather Alt	130	EDW	11:57 PST	08/07:01
1 Day Late	Primary	144	KSC	12:31 EST	09/04:35
	Weather Alt	145	EDW	11:00 PST	09/06:04
2 Days Late	Primary	159	KSC	11:34 EST	10/03:38
	Weather Alt	160	EDW	10:03 PST	10/05:07

D. CREW

CDR - Ken Cameron
 PLT - James Halsell, Jr.
 MS1 - Chris Hadfield
 MS2 - Jerry Ross
 MS3 - Bill McArthur

FLIGHT PLAN NOTES

E. COMMUNICATIONS

TDRS Support: East (41° W), West (174° W), Z (85° E)
Backup Real-Time TV: GDS(GDX), MIL(MLX)
Contingency GSTDN: MIL(MLX)*, BDA(BDX)*, GDS(GDX)*, and WLP
Contingency RTS: HTS, GTS, VTS, IOS*, CGS, DGS, OTS*, and HNS

*UHF capability

Lead time for site callup: GSTDN - 2 hr, RTS - 4 hr

MIR

Altair: 16° W, 95° E

Ground Sites: SHK, DJS, KLP, ULD, USK, PPK, and SPB

F. TELEVISION/PHOTOGRAPHY

The CCTV systems provide one wide-angle camera and one Camcorder for in-cabin coverage. There will be four PLB TV Cameras, two RMS TV Cameras (wrist and elbow), two docking CCTV Cameras (mounted on the ODS truss and the centerline), and a Keel Berthing Camera. In addition, two Electronic Still Cameras (one color, and one black and white) will be flown. The IMAX Cargo Bay Camera (ICBC), which is a 65 mm color motion picture camera system, will be flown in the PLB.

G. PAYLOADS

1. Docking Module (DM)

The primary mission objective of STS-74 is to permanently install the Russian-built Docking Module (DM) on the Mir Krystal module. The DM is designed to extend the Mir docking node so that the shuttle will have enough clearance when it docks to Mir. Without the DM, the Mir would have to move the Krystal from its radial axis to the longitudinal axis to allow the shuttle to dock.

The DM is launched pressurized with hatches on both ends. On FD1, the DM will be activated. On FD3, the DM will be unberthed from the PLB and installed on the Orbiter Docking System (ODS) using the RMS. The ODS is an external airlock extension fitted to Atlantis with an Androgynous Peripheral Docking System (APDS) mechanism attached to the top. The APDS provides locking, structural stiffness, and an airtight seal between the ODS and DM. After installing the DM on the ODS, the crew will pressurize the shuttle vestibule, created between the DM and ODS hatches, using the shuttle hatch equalization valves. The crew will then enter the DM and install the centerline camera in the window of the DM/Krystal hatch. The centerline camera will be used as the primary visual aid for docking to Mir. Following docking, the camera and bracket will be removed to allow access to the hatch.

The shuttle will dock with the Mir on FD4 on daily orbit 3. Docking is planned to occur during a portion of the orbit when communications are available between the Mir and MCC-M through either an ALTAIR satellite or a Russian ground site. Communications may also be available to MCC-H through a TDRS satellite. A VHF communications satellite antenna in the overhead window provides air-to-air comm between the shuttle and the Mir.

Following docking, control (power and command capability) of the DM will be handed over to the Mir. Two sets of solar arrays which are stowed externally on top of the DM and DM truss will remain with the DM after the shuttle departs. Russian cosmonauts will perform an EVA to attach the new solar arrays to Mir.

2. ICBC (IMAX Cargo Bay Camera)

ICBC is a 65 mm color motion picture camera system that is flown in the PLB. Both the camera and magazine are housed in an insulated container that has a viewing window with a movable cover. The film magazine contains approximately 10 1/2 minutes of film at 24 frames per second. The crew operates the ICBC with a Get-Away Special (GAS) Autonomous Payload Controller (GAPC) that plugs into the SSP. The primary objectives of ICBC on STS-74 are to film the Docking Module installation, the Mir rendezvous, docking, separation burn, and flyaround.

3. GLO (GLOW Experiment)

The GLO equipment consists of an imager, a spectrograph, and a coaligned video camera which are mounted to the top of the Hitchhiker Mounting Platform attached to the port side of the PLB. The primary objective is to examine the shuttle and Mir glow emissions under various conditions. An ambient pressure sensor will take readings of the PLB environment. GLO telemetry will be downlinked via S-Band and Ku-Band. GLO will obtain data passively whenever possible throughout the mission. After undocking, maneuver tests will be performed if time is available. GLO is part of the GPP payload package; see section J for a discussion of the Photogrammetric Appendage Structural Dynamics Experiment (PASDE) portion of the payload.

4. Shuttle Amateur Radio Experiment-II (SAREX-II) Configuration M

SAREX-II consists of a ham radio capable of two-way communication with amateur radio stations within orbiter line of sight. On STS-74, SAREX does not require unique hardware. Communications will occur via the PLB mounted VHF radio. Five school contacts are planned.

H. ON-ORBIT DTOs

1. Radiator Performance (DTO 624)

This DTO is designed to obtain radiator performance data in specific attitudes. The data is then used to predict radiator performance to help determine flash evaporator water requirements, radiator only cooling constraints, etc. This is a DTO of opportunity for STS-74.

2. Orbiter Space Vision System (OSVS) Video Taping (DTO 700-10)

The purpose of this DTO is to record camera video of targets mounted on the DM during installation onto the ODS and again during shuttle separation from Mir. This recorded video can be analyzed post-flight to characterize OSVS performance. This is a DTO of opportunity for STS-74.

3. Orbiter Space Vision System Flight Unit Testing (DTO 700-11)

OSVS uses existing shuttle PLB Camera A video scenes plus software on an orbiter PGSC to provide precise relative position, attitude, and rate cues in a graphical and digital format. OSVS will be used on STS-74 during DM unberth and installation.

4. Plume Impingement and Contamination (PIC) (DTO 829)

PIC will be used to measure and record orbiter PRCS (post undocking) and Russian (Mir) 13kg engine (while docked) plume contamination and sensor contaminate evaporation rates. Quartz Crystal Microbalance (QCM) sensors mounted on the RMS EE will be used to measure the contamination.

5. Target of Opportunity Navigation Sensors (TONS) (DTO 832)

The purpose of the DTO is to provide rendezvous operation scenarios for tracking large spacecraft such as Mir or ISSA. TONS will use a light on the exterior of Mir to track the vehicle via the Star Tracker during rendezvous. In addition, COAS marks will be taken during separation.

6. Photographic and Video Survey of Mir Space Station (DTO 1118)

The primary objective of this DTO is to conduct a photographic and video survey of the Mir from the shuttle to assess the condition of the Mir, assess relative motion of the Mir and shuttle, and analyze plume impingement. Downlink of recorded video will be accomplished on a time available basis.

7. Mated Mir Free Drift (DTO 1120)

This DTO will demonstrate the capability to maintain a gravity gradient attitude while docked to Mir without the assistance of an active control system. Mir command, control, and communication with MCC-M is required for at least the first 10 minutes of the test.

8. APAS Thermal Data (DTO 1122)

This DTO will be used to obtain thermal data necessary to correlate the Androgynous Peripheral Assembly System (APAS) thermal mathematical model to support subsequent APAS flights.

I. ON-ORBIT DSOs

1. Inter Mars Tissue Equivalent Proportional Counter (ITEPC) (DSO 485)

This DSO consists of a spectrometer, radiation detector, and support electronics mounted on an Adaptive Payload carrier located in the PLB. This DSO will demonstrate the ability of the hardware to withstand the radiation environment. The only crew activities associated with this DSO are payload activation and deactivation.

2. In-flight Use of Florinef to Improve Orthostatic Intolerance Postflight (DSO 621)

The objective of this DSO is to evaluate the efficiency of Florinef on postflight orthostatic tolerance using heart rate, blood pressure, stroke volume, and other cardiovascular responses to orthostatic stress. Florinef, a plasma expander, has been effective in restoring or maintaining plasma volume and orthostatic tolerances during post-bedrest tests. Participating crewmembers will begin fluid loading 1 hour after the Florinef is taken on EOM.

3. Documentary Television (DSO 901)

This DSO requires live television transmission or VTR dumps of crew activities and spacecraft functions which include: payload bay views, orbiter and payload crew activities, VTR downlink of crew activities, inflight crew conference, and unscheduled TV activities.

4. Documentary Motion Picture Photography (DSO 902)

This DSO requires documentary and public affairs motion picture photography of significant activities which best depict the basic capabilities of the space shuttle and key objectives. This DSO includes motion picture photography of flight deck activities, middeck activities, and any unscheduled motion picture photography.

5. Documentary Still Photography (DSO 903)

This DSO requires still photography of crew activities in the orbiter and mission-related scenes of general public and historical interest. Still photography with 70 mm format for exterior photography and 35 mm format for interior photography is required.

J. RISK MITIGATION EXPERIMENT (RME)

1. Mated Shuttle and Mir Structural Dynamics Test (RME 1301)

The primary purpose of this experiment is to obtain acceleration data and IMU sensor data from the docked Mir and orbiter during an orbiter PRCS jet firing sequence. The secondary objective is to obtain video images of Mir Spektr solar arrays 3 and 4 during the PRCS jet firing. This RME will verify the notch filter and jet firing delay parameters used by the DAP. Verification must be completed before allowing the shuttle's PRCS to be used for the stability/control of the shuttle/Mir configuration.

2. Assessment of Mir Space Station Sound Environment (RME 1305)

The purpose of this RME is to measure the Mir internal noise environment for ISSA risk mitigation. The crew will measure sound levels aboard Mir during docked operations by collecting sound level measurements at various times and locations and by completing inflight questionnaires.

3. Mir Wireless Network Experiment (RME 1306)

This RME will test commercial Radio Frequency (RF) wireless data links and mobile computer equipment. This system will operate like a conventional network of personal computers. The crew will transfer the Wireless Network equipment to the Mir where it will be connected to Mir power through the MIPS power interface. The crew will use both the Personal Digital Assistant (PDA) and subnotebook to view, modify, and store sample Flight Data Files over the wireless network.

4. Photogrammetric Appendage Structural Dynamics Experiment (PASDE) (RME 1308)

This experiment consists of three hitchhiker canisters each containing two video cameras, two analog video flight tape recorders, and electronics. Each canister has a clear window to allow for camera viewing. In each canister, one camera is aimed at the Solar Array (SA) root and one at the SA tip. Two canisters are on the port side and the third is on the starboard side. The primary objective is to photogrammetrically record structural response data of a Russian Mir appendage during docking, mated dynamics test, and terminator crossings.

5. Shuttle/Mir Alignment Stability Experiment (RME 1310)

The Mir Star Trackers will be turned on for two orbits at least five times during docked operations. The Mir Star Trackers will be commanded on/off over Russian ground sites.

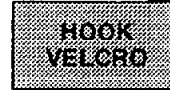
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CONFIGURATION

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STS-74 GENERIC DAP A CONFIGURATIONS (A6 & A7 STS-74 SPECIFIC)

	ITEM #	A1	A2	A3	A4	A5	A6	A7
PRI								
ROT RATE	10	0.2000	0.4000	0.2000	0.5000	0.2000	0.2000	0.2000
ATT DB	11	5.00	1.00	1.00	3.00	5.00	5.00	2.00
RATE DB	12	0.20	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	13	0.10	0.10	0.10	0.10	0.10	0.10	0.10
COMP	14	.000	.000	.000	.000	.000	.000	.000
P OPTION	15	ALL	ALL	ALL	ALL	ALL	TAIL	ALL
Y OPTION	16	ALL	ALL	TAIL	ALL	ALL	TAIL	ALL
TRAN PLS	17	0.10	0.10	0.10	0.10	0.10	0.10	0.10
ALT								
RATE DB	18	0.200	0.200	0.200	0.200	0.070	0.070	0.200
JET OPT	19	ALL	ALL	ALL	ALL	ALL	TAIL	ALL
# JETS	20	2	2	2	2	1	1	2
ON TIME	21	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VERN								
ROT RATE	23	0.2000	0.4000	0.0080	0.2000	0.2000	0.0650	0.2000
ATT DB	24	1.000	1.000	0.070	1.000	1.000	1.000	1.000
RATE DB	25	.020	.020	.010	.020	.020	.020	.020
ROT PLS	26	0.010	0.010	0.010	0.010	0.010	0.010	0.010
COMP	27	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28	0	0	0	0	0	0	2
PURPOSE		NOMI- NAL	PTC	GG	PRE/ POST DEPLOY	LOSS OF VERN N/T	LOSS OF VERN TAIL ONLY MIN PROP VERN	RNDZ

Note: **BOLD/ITALICS** = not l-Loaded

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STS-74 FLIGHT SPECIFIC DAP A CONFIGURATIONS

	ITEM #	A8	A9	A10	A11	A12	A13	A14	A15
PRI									
ROT RATE	10	0.2000	0.0500	0.1300	0.1000	0.1000	0.0500	0.3000	0.1000
ATT DB	11	1.00	0.50	2.00	5.00	5.00	1.00	3.00	40.00
RATE DB	12	0.10	0.10	0.10	0.20	0.20	0.10	0.20	0.20
ROT PLS	13	0.10	0.10	0.10	0.04	0.04	0.10	1.00	0.003*
COMP	14	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	15	TAIL	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	TAIL
Y OPTION	16	TAIL	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	TAIL
TRAN PLS	17	0.05	0.05	0.05	0.01	0.01	0.05	0.75	0.01
ALT									
RATE DB	18	0.200	0.200	0.200	0.200	0.070	0.200	0.200	0.200
JET OPT	19	ALL	ALL	ALL	TAIL	TAIL	ALL	TAIL	TAIL
# JETS	20	2	2	2	2	3	2	2	3
ON TIME	21	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22	0.00	0.00	0.00	6.60	12.16	0.00	0.00	12.16
VERN									
ROT RATE	23	0.2000	0.0500	0.1300	0.2000	0.1500	0.0500	0.3000	0.0500
ATT DB	24	1.000	0.500	2.000	3.000	5.000	1.000	1.000	5.000
RATE DB	25	.020	.020	.020	.200	.050	.020	.020	.050
ROT PLS	26	0.010	0.050	0.050	0.002	0.002	0.050	0.050	0.001
COMP	27	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28	2	2	0	3	7	2	0	7
PURPOSE		CORRIDOR	DOCKING	FLY AROUND	DM OPS	MATED STACK MNVRS & HOLD	FAILED CAPTURE	GLO, PRCS, GG	RME 1301

Note: **BOLD/ITALICS** = not I-Loaded

* .003 is below SPEC 20 lower limit. Value has been I-loaded and will not show on SPEC 20 display

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STS-74 GENERIC DAP B CONFIGURATIONS (B7 STS-74 SPECIFIC)

	ITEM #	B1	B2	B3	B4	B5	B7
PRI							
ROT RATE	30	0.5000	0.2000	0.2000	0.2000	0.2000	0.5000
ATT DB	31	3.00	3.00	3.00	0.30	3.00	2.00
RATE DB	32	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	33	0.04	0.04	0.04	0.04	0.04	0.04
COMP	34	.000	.000	.000	.000	.000	.000
P OPTION	35	ALL	TAIL	ALL	TAIL	TAIL	ALL
Y OPTION	36	ALL	TAIL	ALL	TAIL	TAIL	ALL
TRAN PLS	37	0.10	0.02	0.02	0.02	0.02	0.05
ALT							
RATE DB	38	0.200	0.070	0.070	0.200	0.200	0.200
JET OPT	39	ALL	TAIL	ALL	ALL	ALL	ALL
# JETS	40	2	1	1	2	2	2
ON TIME	41	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42	0.00	0.00	0.00	0.00	0.00	0.00
VERN							
ROT RATE	43	0.2000	0.2000	0.2000	0.0080	0.0160	0.2000
ATT DB	44	1.000	1.000	1.000	0.100	0.033	1.000
RATE DB	45	.020	.020	.020	.010	.020	.020
ROT PLS	46	0.002	0.002	0.002	0.002	0.002	0.002
COMP	47	.000	.000	.000	.000	.000	.000
CNTL ACC	48	0	0	0	0	0	2
PURPOSE		NOM OMS RCS BURNS	LOSS OF VERN TAIL ONLY	LOSS OF VERN N & T	SSUS DEPLOY	COAS CAL	RNDZ

Note: **BOLD/ITALICS** = not l-Loaded

FLT PLN-1b/74/O/B

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"STS-74 GENERIC DAP B CONFIGURATIONS"
HINGE

STS-74 FLIGHT SPECIFIC DAP B CONFIGURATIONS

	ITEM #	B8	B9	B10	B11	B12	B13	B14	B15
PRI									
ROT RATE	30	0.2000	0.0500	0.1300	0.1000	0.0500	0.0500	0.1000	0.1000
ATT DB	31	1.00	0.50	2.00	5.00	5.00	1.00	1.00	40.00
RATE DB	32	0.10	0.10	0.10	0.20	0.20	0.10	0.20	0.20
ROT PLS	33	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.003*
COMP	34	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	35	TAIL	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	TAIL
Y OPTION	36	TAIL	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	TAIL
TRAN PLS	37	0.01	0.01	0.01	0.61	0.01	0.01	0.02	0.01
ALT									
RATE DB	38	0.200	0.200	0.200	0.200	0.070	0.200	0.070	0.200
JET OPT	39	ALL	ALL	ALL	TAIL	TAIL	ALL	TAIL	TAIL
# JETS	40	2	2	2	2	3	2	2	3
ON TIME	41	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42	0.00	0.00	0.00	4.70	12.16	0.00	0.00	12.16
VERN									
ROT RATE	43	0.2000	0.0500	0.1300	0.2000	0.1000	0.0500	0.1000	0.0500
ATT DB	44	1.000	0.500	2.000	3.000	1.000	1.000	1.000	5.000
RATE DB	45	.020	.020	.020	.200	.050	.020	.020	.050
ROT PLS	46	0.002	0.020	0.020	0.002	0.002	0.020	0.002	0.001
COMP	47	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	48	2	2	0	3	7	2	0	7
PURPOSE		CORRI-DOR	DOCKING	FLY AROUND	DM OPS	MATED STACK TIGHT CONTROL	FAILED CAPTURE	GLO OG ROLL	RME 1301

Note: **BOLD/ITALICS** = not I-loaded

*.003 is below SPEC 20 lower limit. Value has been I-loaded and will not show on SPEC 20 display

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SPAR AEROSPACE
9445 AIRPORT ROAD
BRAMPTON, ONTARIO
CANADA L6S4J3
WOODLAND, C. (2)

TECHTRANS INTERNATIONAL, INC.
2200 SPACE PARK DRIVE
#410
HOUSTON, TX 77058
ATTN:/THORNE, H.

TELEDYNE BROWN ENGINEERING
CUMMINGS RESEARCH PARK
300 SPARKMAN DRIVE, NW
P. O. BOX 70007
HUNTSVILLE, AL 35807-7007
MS 172/GILCHRIST, M.

UNIVERSITY OF ARIZONA
901 GOULD-SIMPSON BLDG
TUCSON, AZ 85721
GLO PI/BROADFOOT, L.

=====
Total 420
(11/06/95 - TLISTER)

NOTE

*	FOR CHANGES	*
*	IN DISTRIBUTION	*
*	OR ADDRESS CORRECTIONS	*
*	CONTACT THE	*
*	PROCEDURES MANAGEMENT	*

FFICE AT (713) 244-1184
